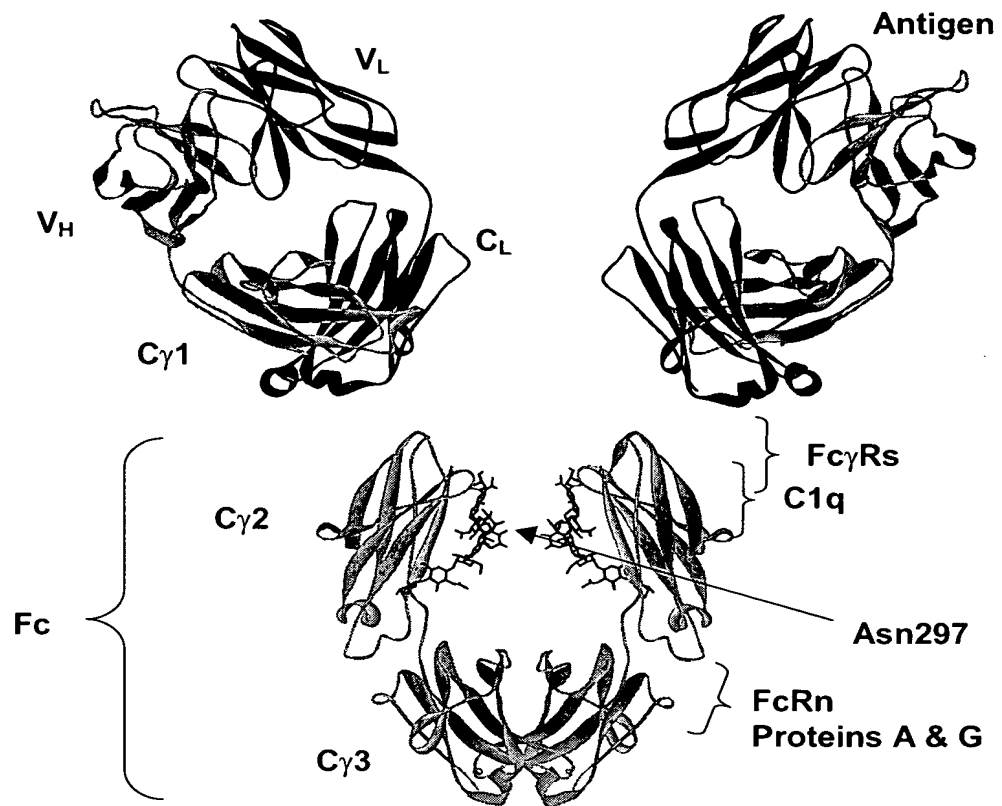
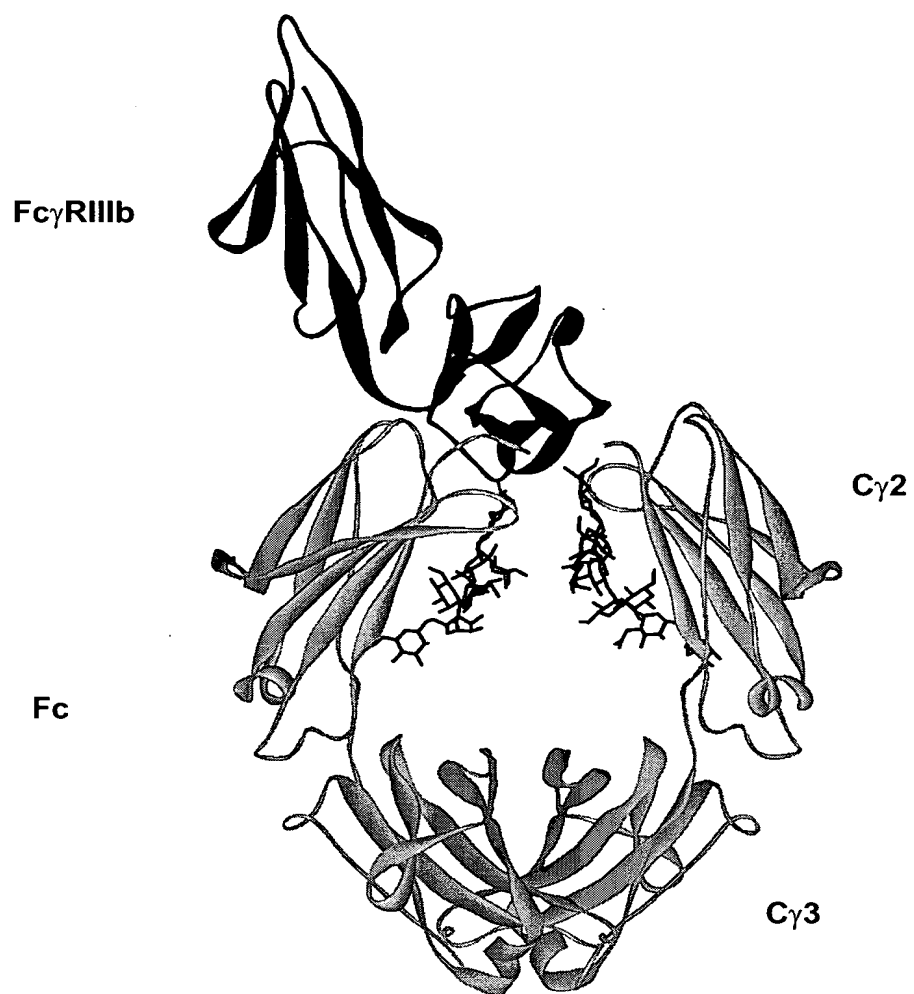


Figure 1



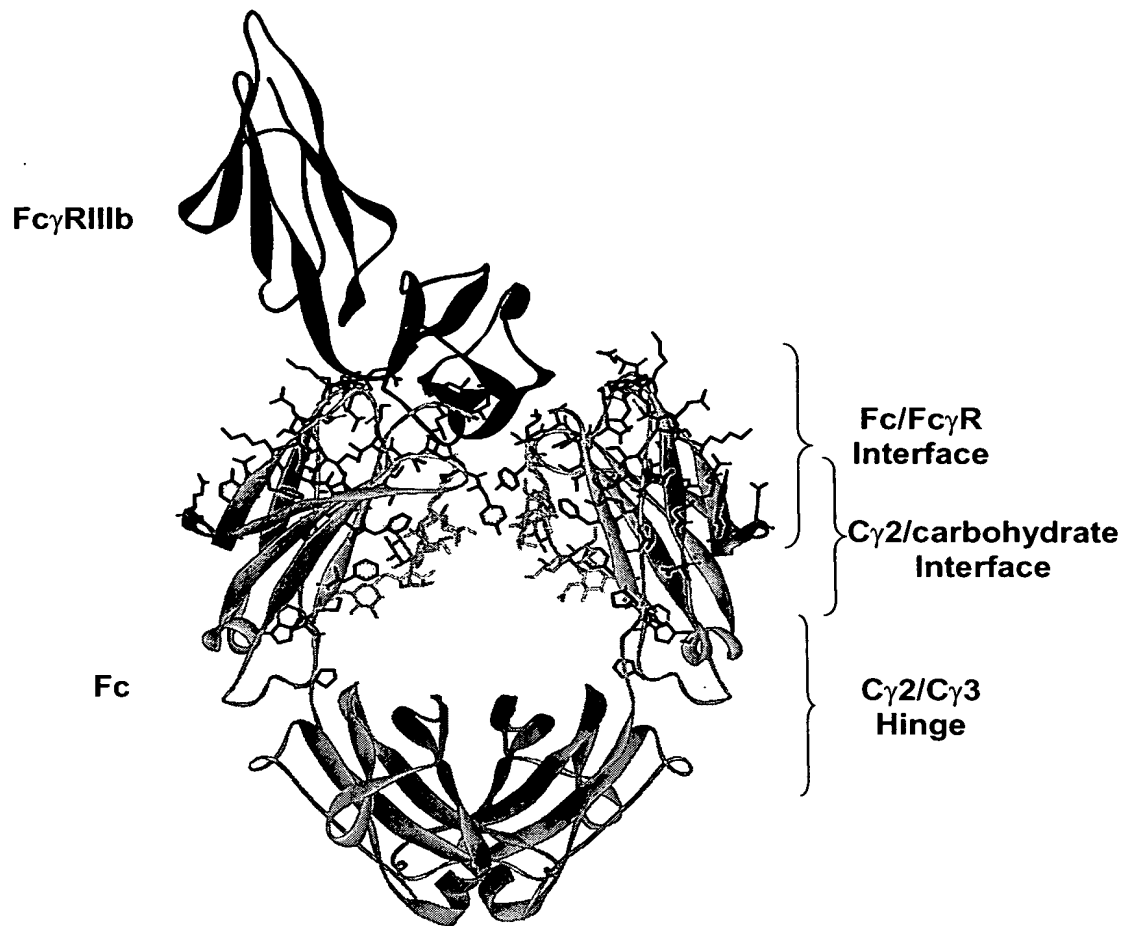
**Figure 2**



**Figure 3**

VH1->  
1 10 20 30 40 50 60  
123456789012345678901234567890123456789012345678901234567890  
QVQLQESGPGGLVRPSQTLSTCTVSGFTFTDFYMNWVRQPPGRGLEWIGFIRDKAKGYTT  
  
70 80 90 100 110 120  
123456789012345678901234567890123456789012345678901234567890  
EYNPSVKGRVTMLVDTSKNQFSLRLSSVTAADTAVYYCAREGHTAAPFDYWGQGSGLVTVS  
  
Cy1->  
130 140 150 160 170 180  
123456789012345678901234567890123456789012345678901234567890  
SASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQS  
  
HINGE->  
190 200 210 220 230 240  
123456789012345678901234567890123456789012345678901234567890  
SGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLG  
1234567890123456  
KABAT 22 23  
  
Cy2->  
250 260 270 280 290 300  
123456789012345678901234567890123456789012345678901234567890  
GPSVFLFPPKPKDITLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQY  
789012345678901234567890123456789012345678901234567890123456  
240 250 260 270 280 290  
  
?Cy3?->  
310 320 330 340 350 360  
123456789012345678901234567890123456789012345678901234567890  
NSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYITLPPSRD  
789012345678901234567890123456789012345678901234567890123456  
300 310 320 330 340 350  
  
370 380 390 400 410 420  
123456789012345678901234567890123456789012345678901234567890  
ELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSR  
789012345678901234567890123456789012345678901234567890123456  
360 370 380 390 400 410  
  
430 440 450  
1234567890123456789012345678901  
WQQGNVFSCSVMHEALHNHYTQKSLSLSPGK  
7890123456789012345678901234567  
420 430 440

**Figure 4**



**Figure 5**

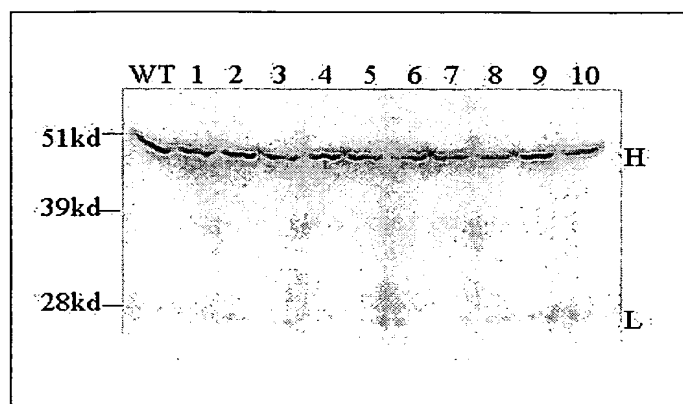
22            23            24            25            26            27            28  
123456789012345678901234567890123456789012345678901234567890  
DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD

29            30            31            32            33            34  
123456789012345678901234567890123456789012345678901234567890  
GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK

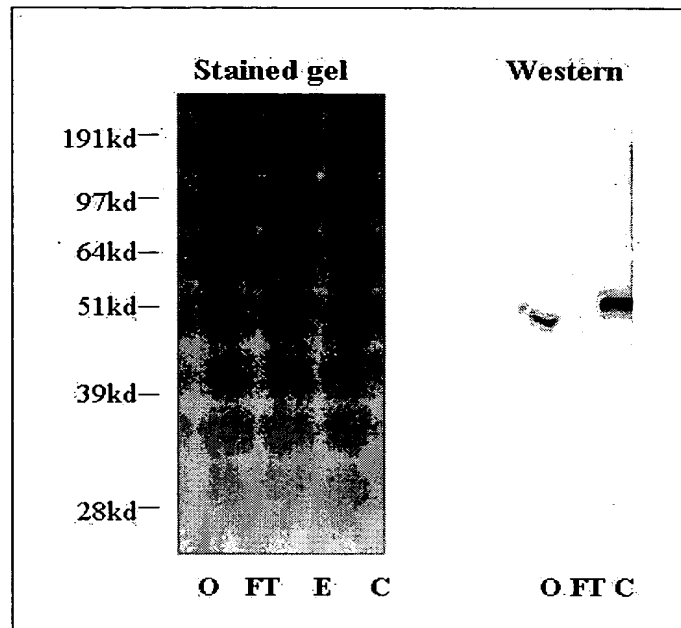
35            36            37            38            39            40  
123456789012345678901234567890123456789012345678901234567890  
GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLD

41            42            43            44  
123456789012345678901234567890123456789012345678901234567  
DGSFFLYSKLTVDKSRWQQGNVFSVSMHEALHNHYTQKSLSLSPGK

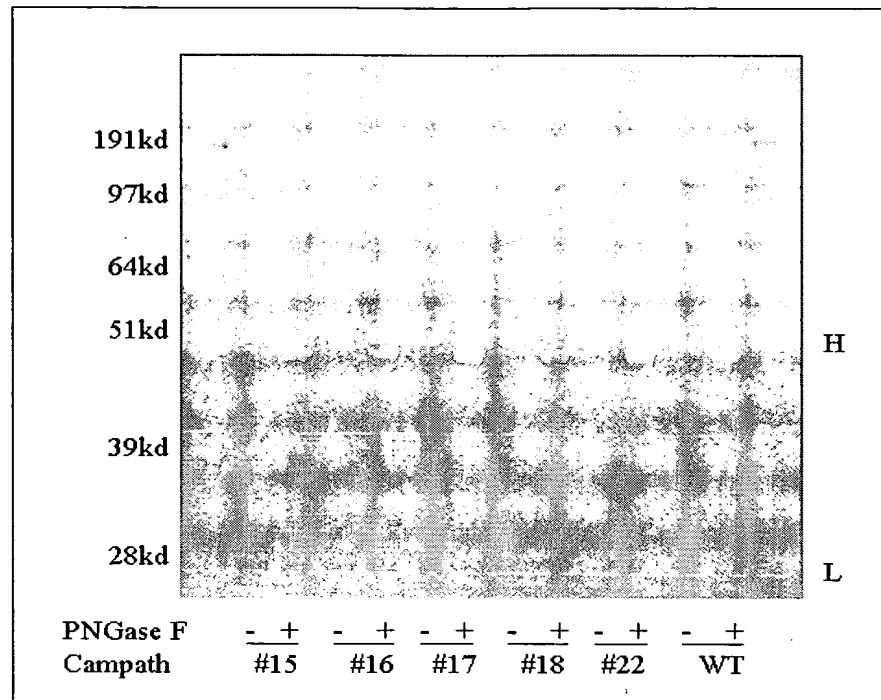
**Figure 6**



**Figure 7**

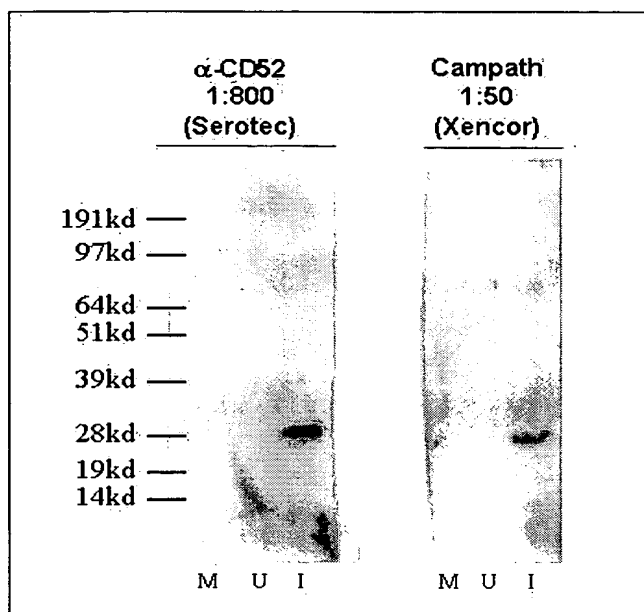


**Figure 8**





**Figure 9**



**Figure 10**

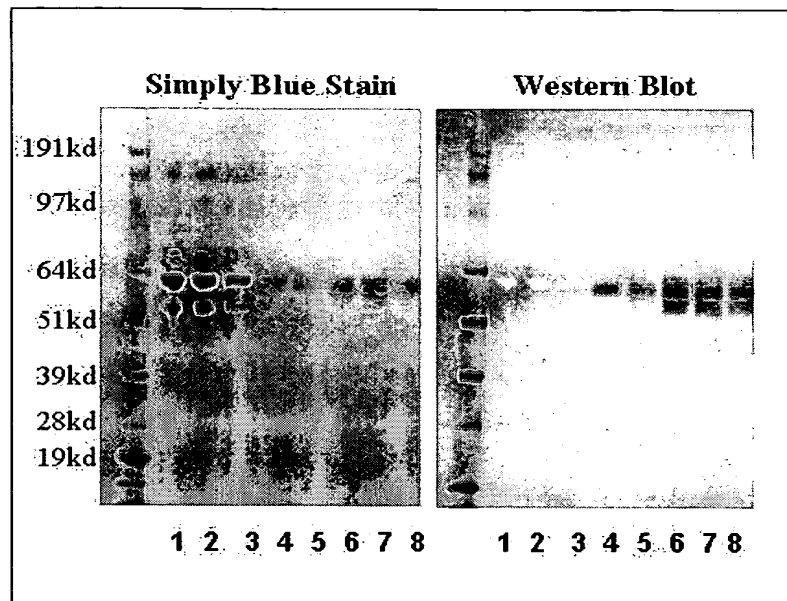


Figure 11

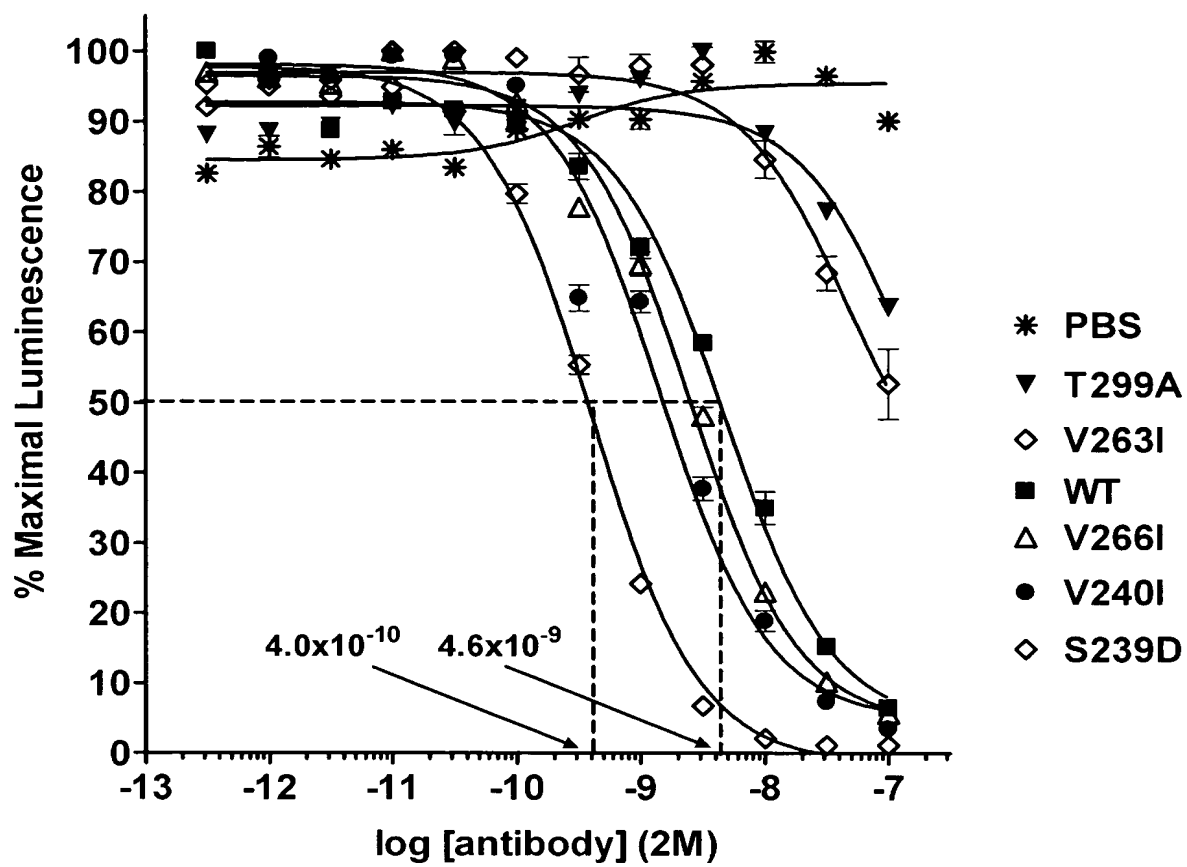


Figure 12

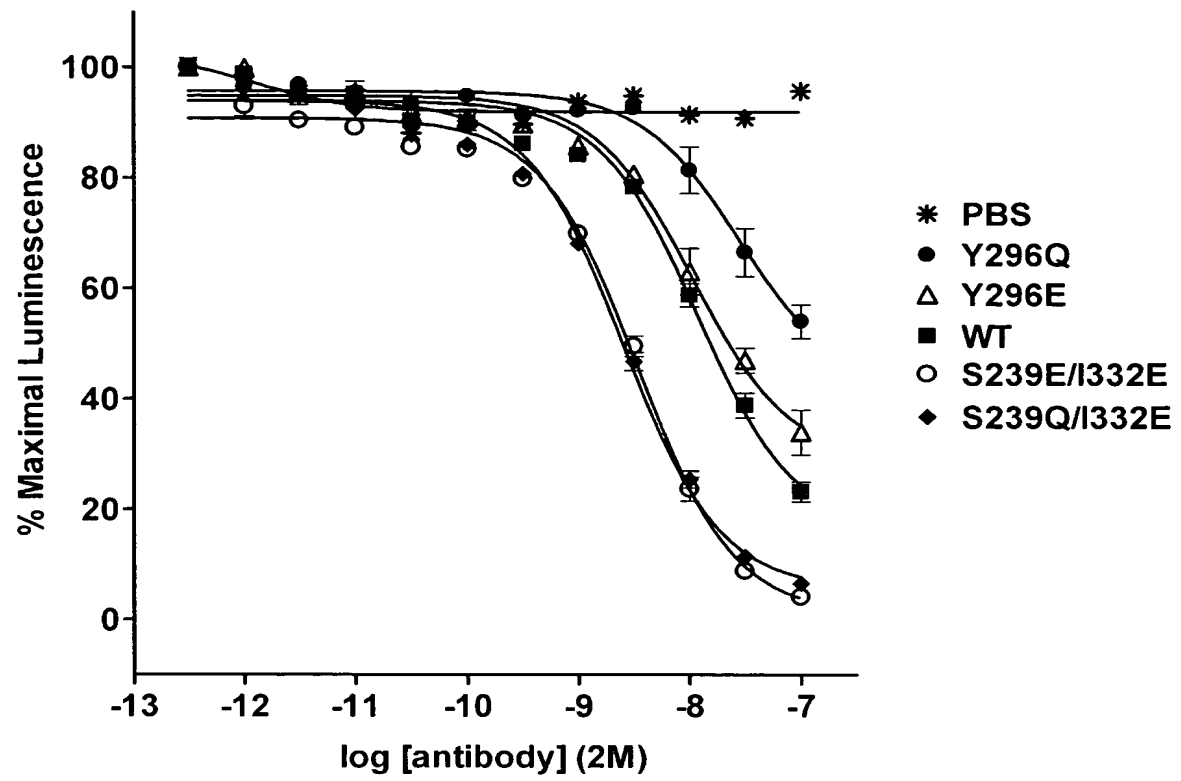


Figure 13a

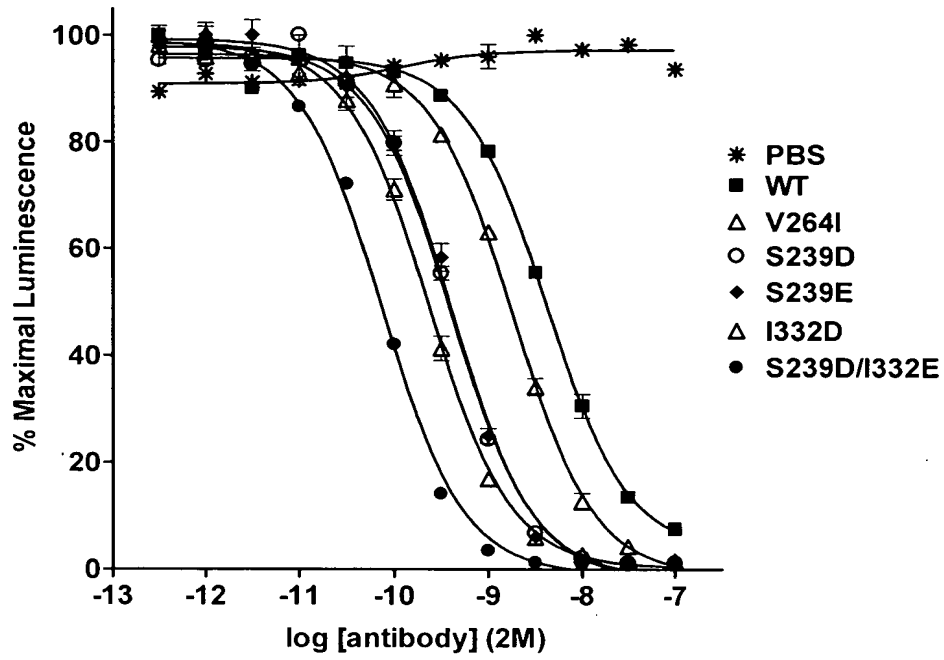


Figure 13b

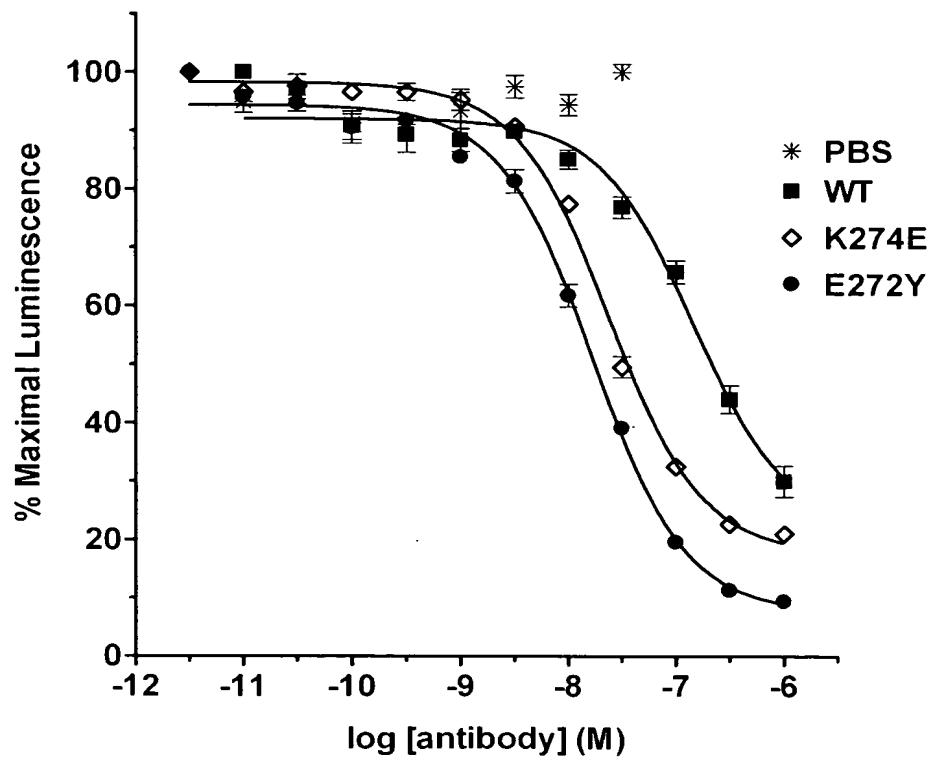


Figure 14a

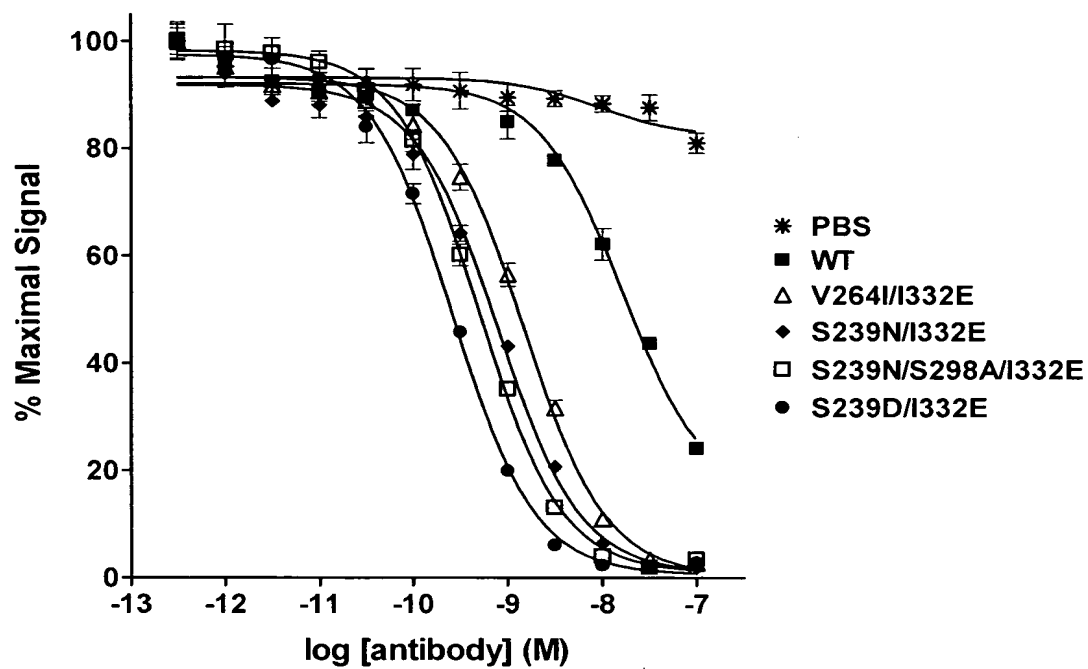


Figure 14b

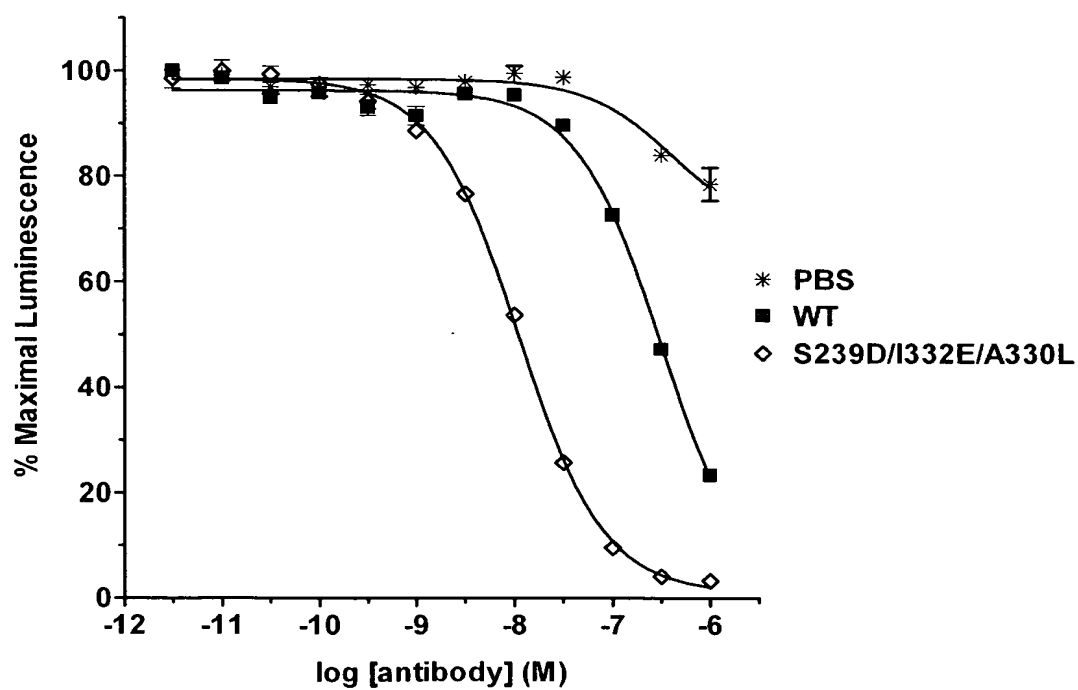


Figure 15a

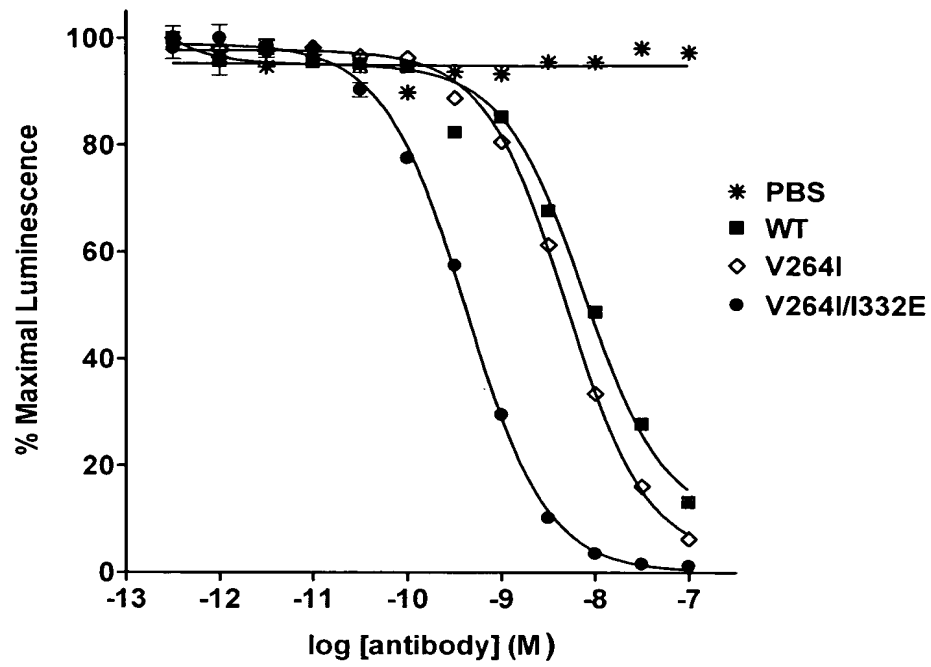


Figure 15b

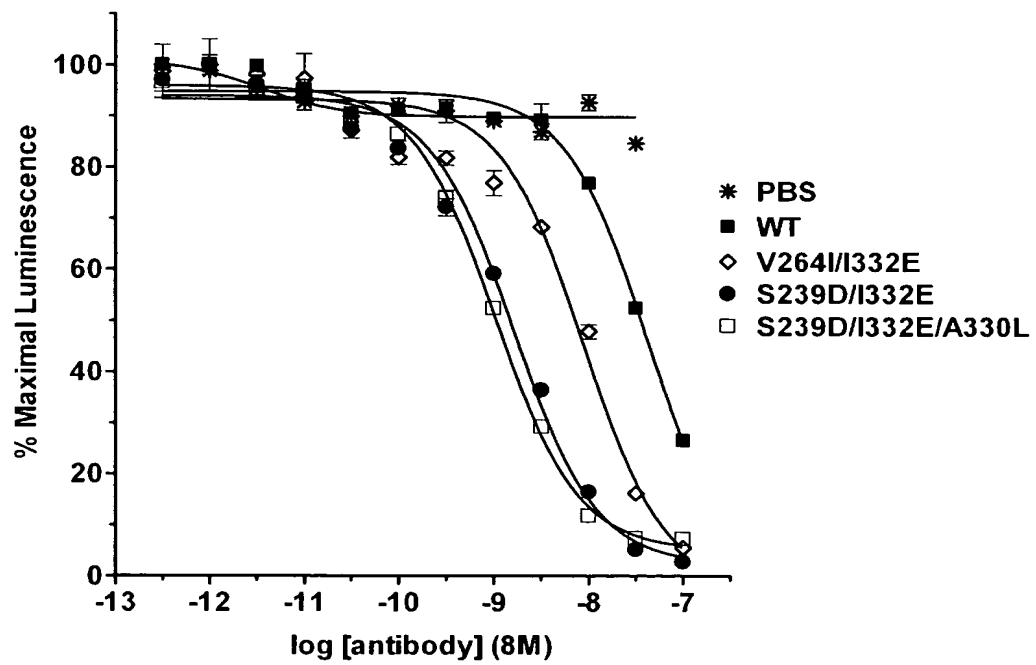


Figure 16a

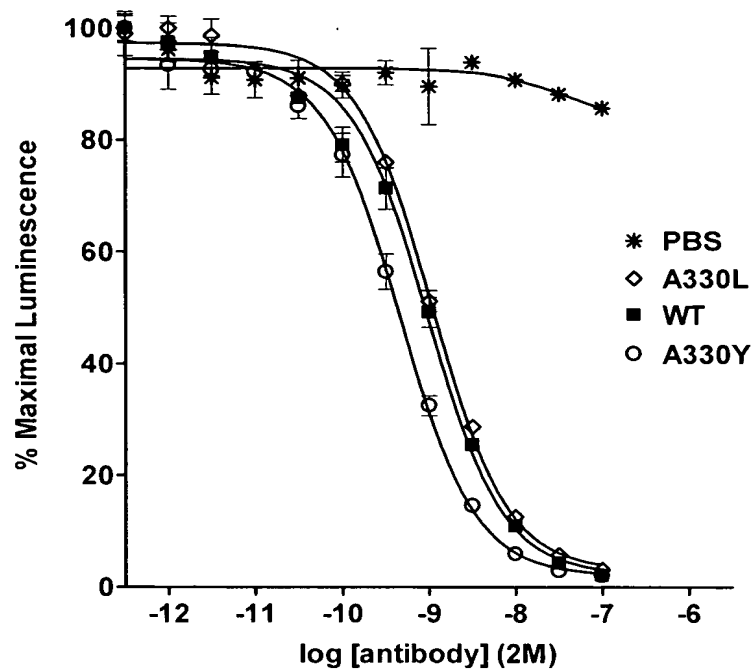


Figure 16b

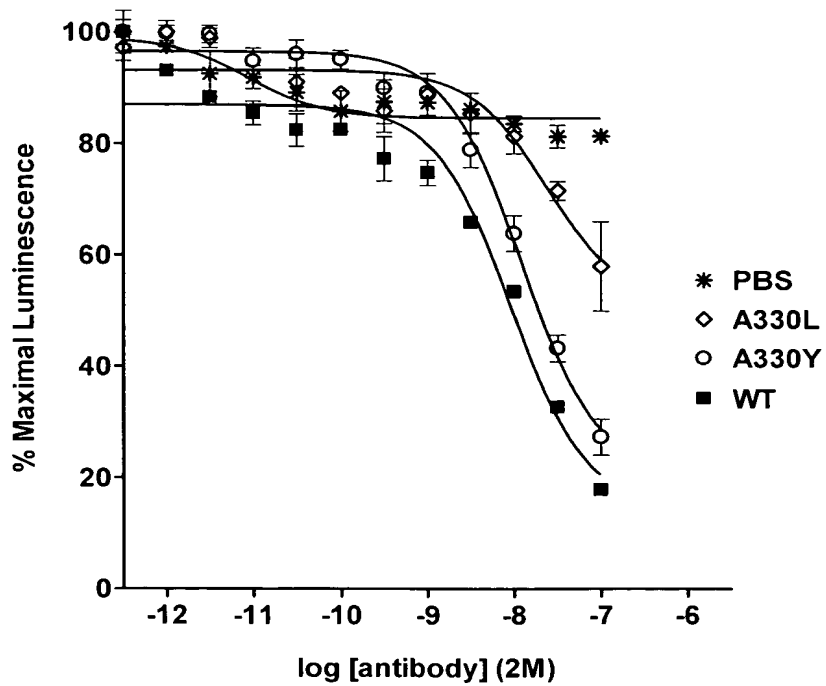




Figure 17

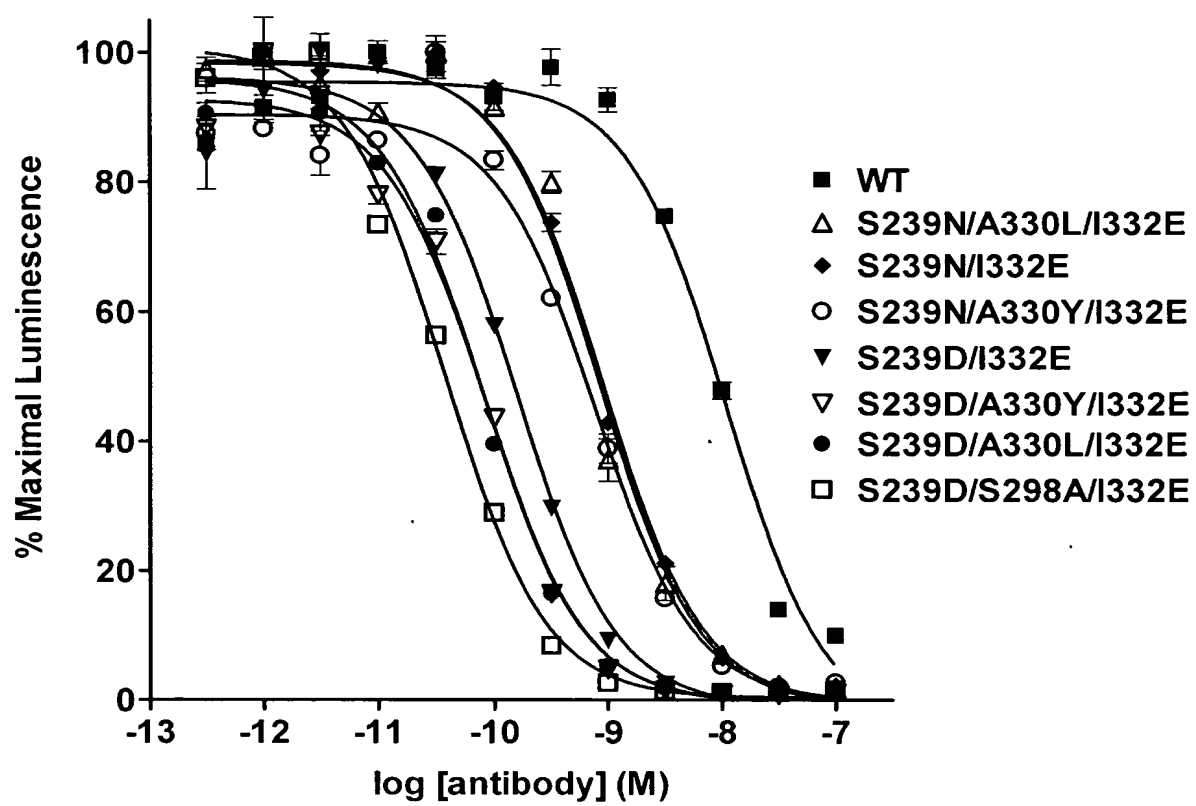


Figure 18

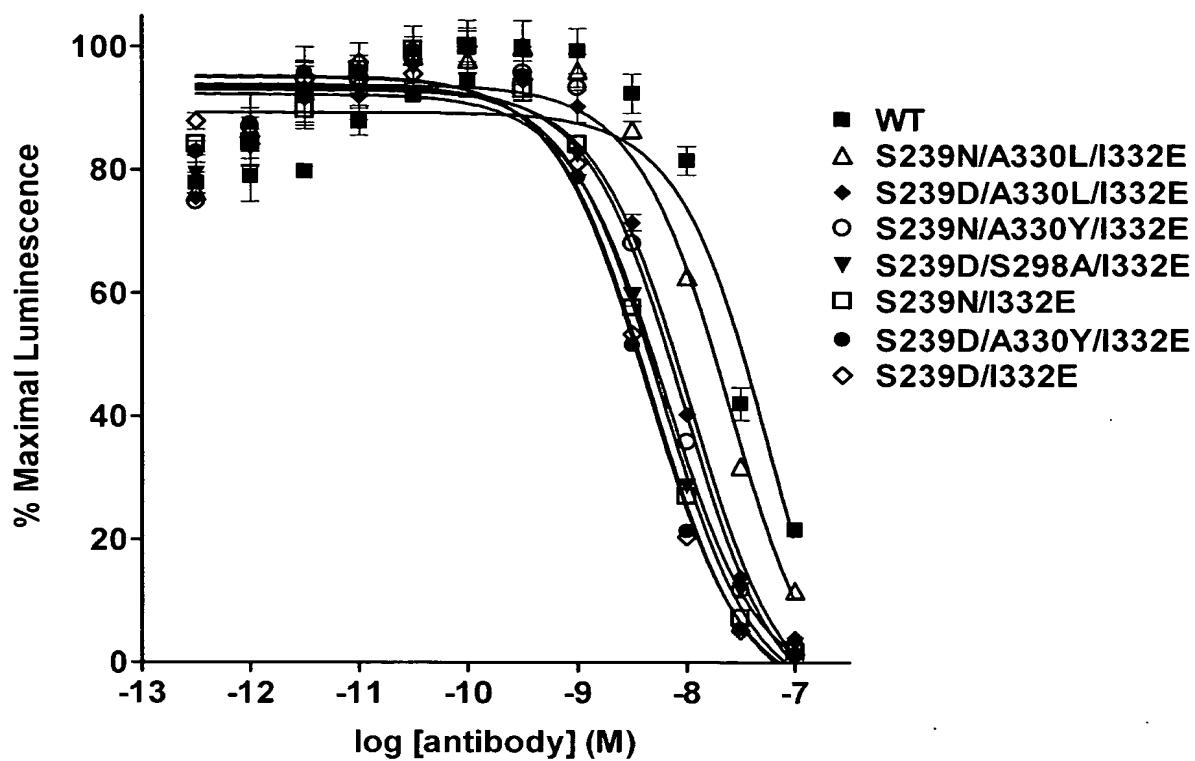


Figure 19a

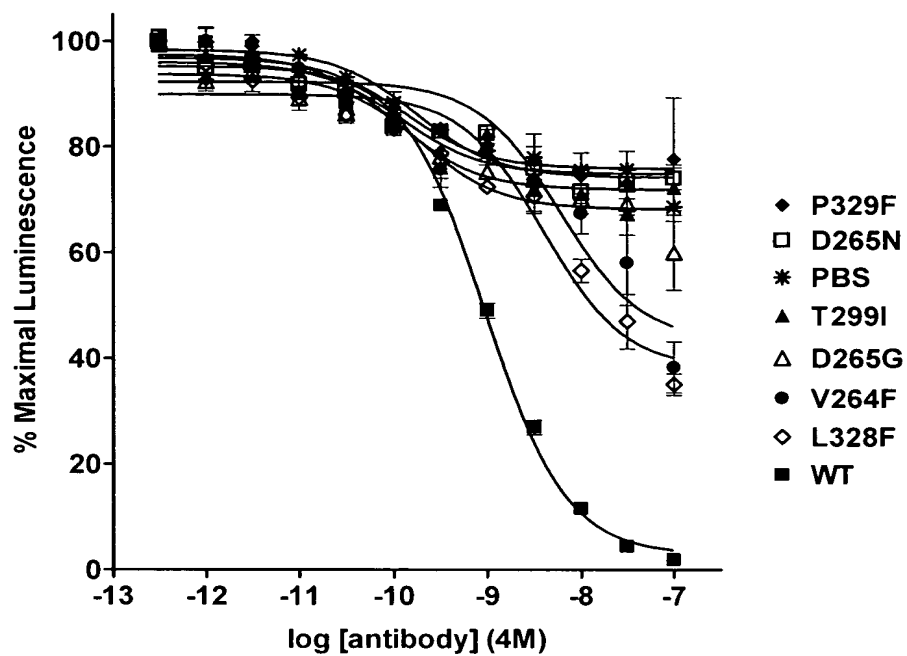


Figure 19b

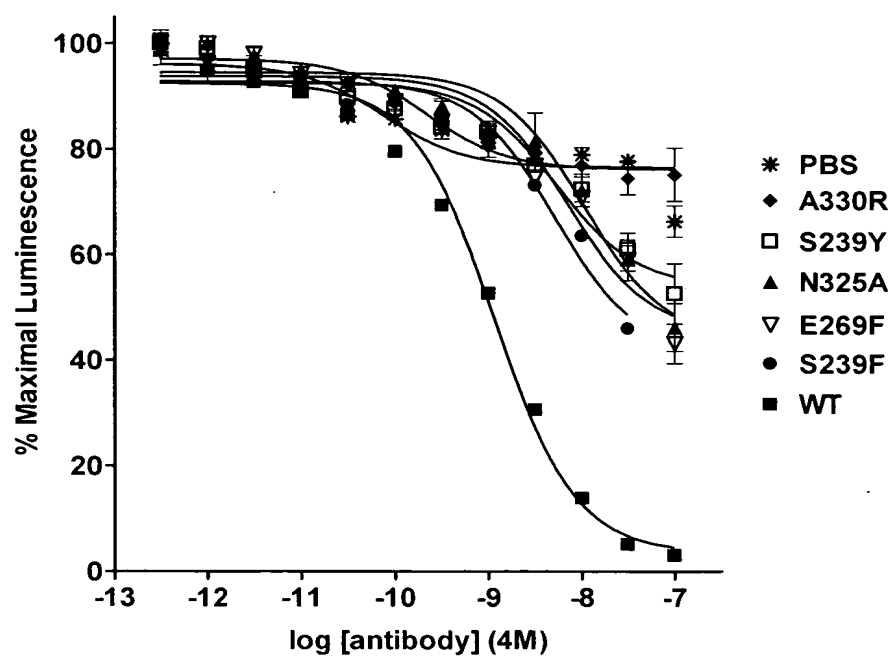


Figure 20

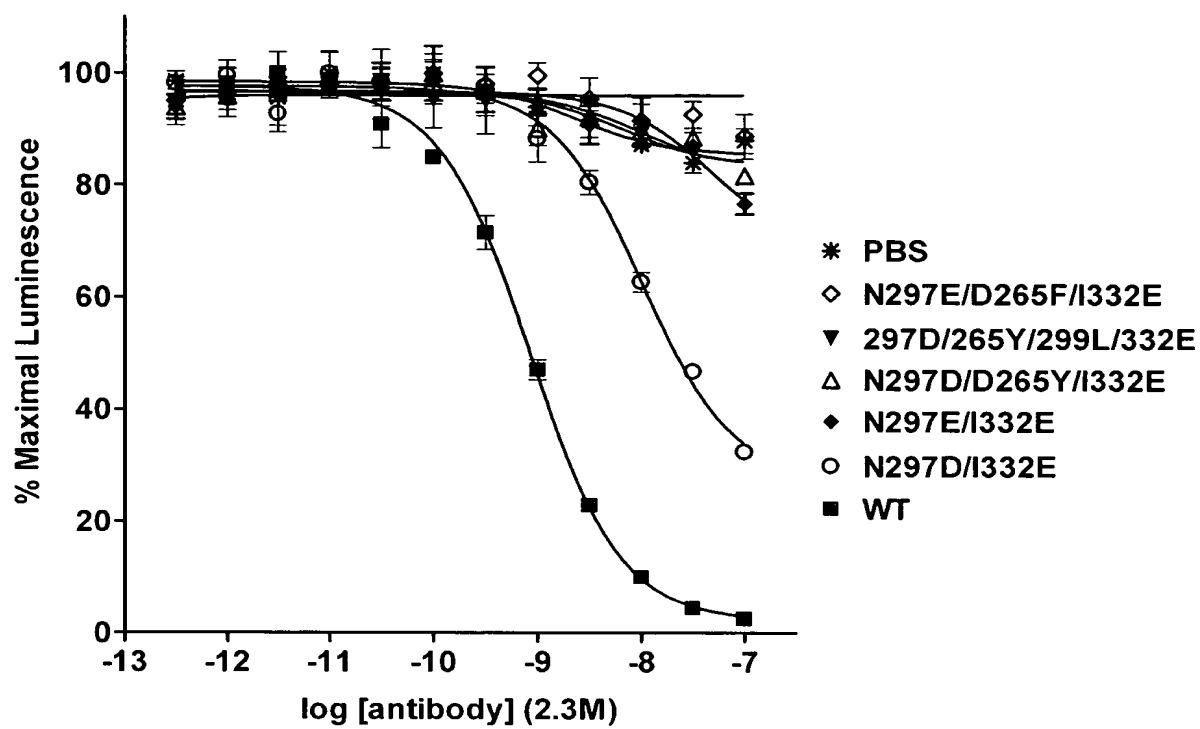


Figure 21

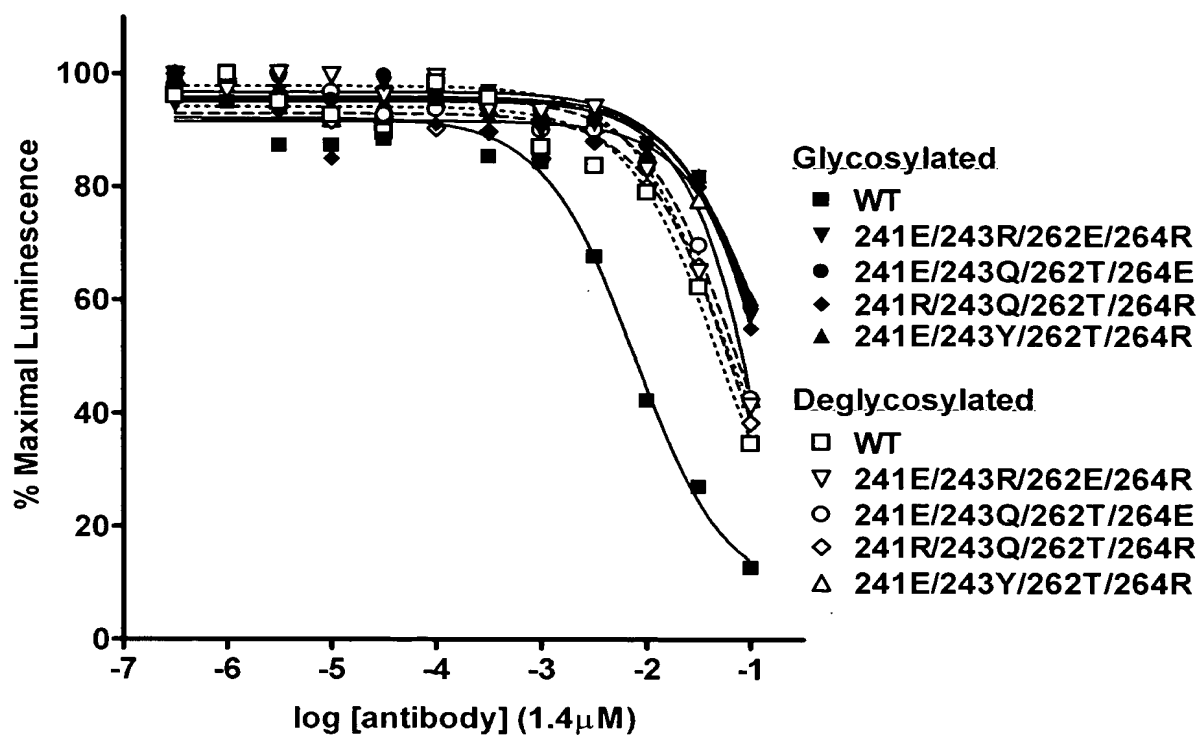


Figure 22a

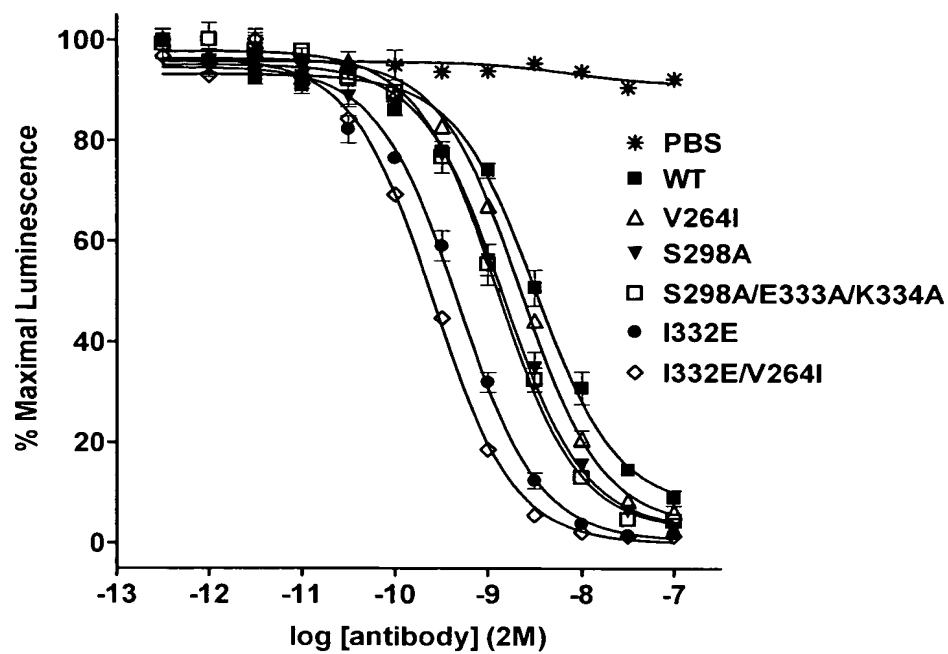


Figure 22b

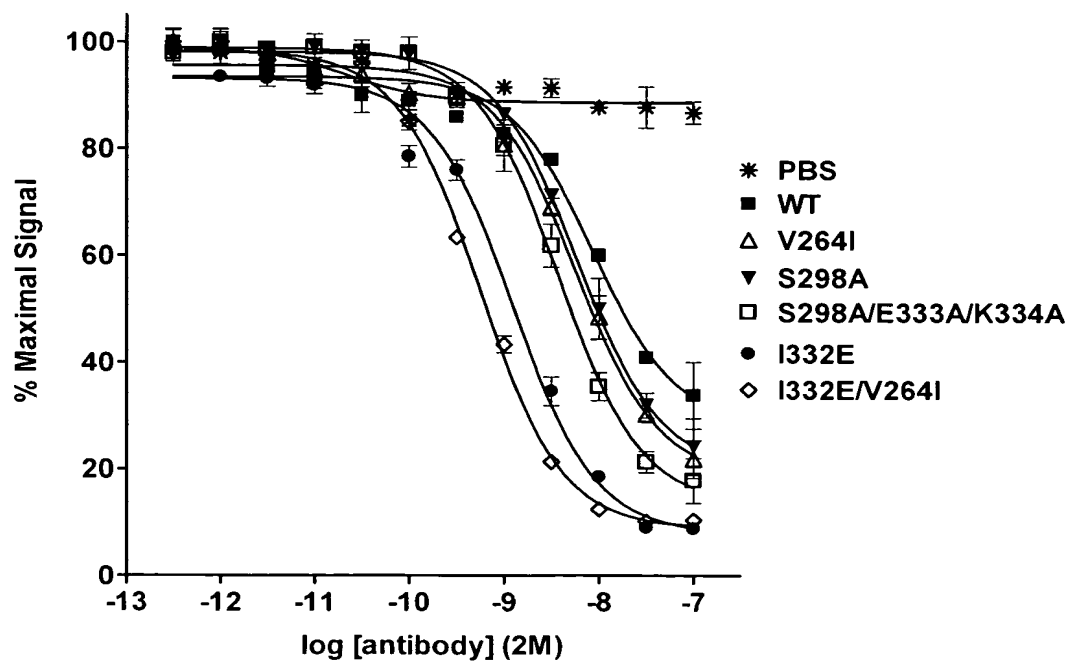


Figure 23a

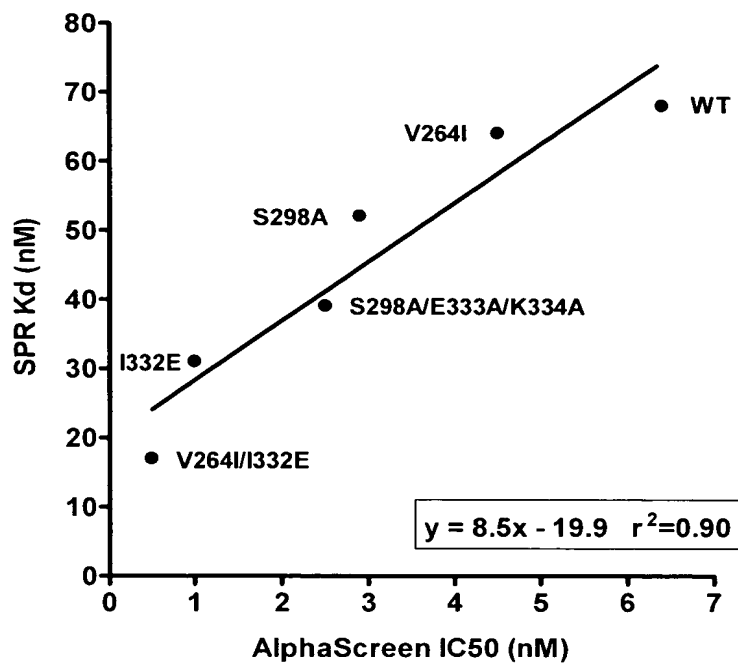


Figure 23b

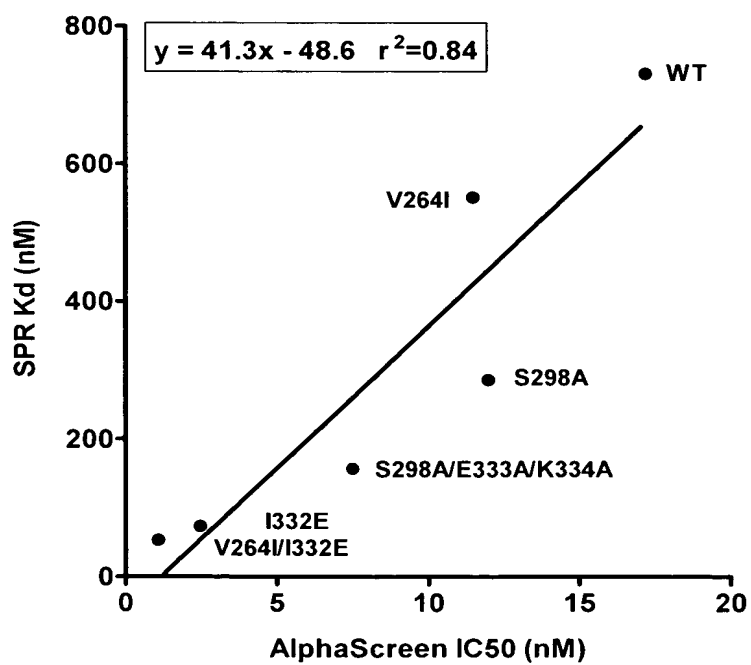


Figure 23c

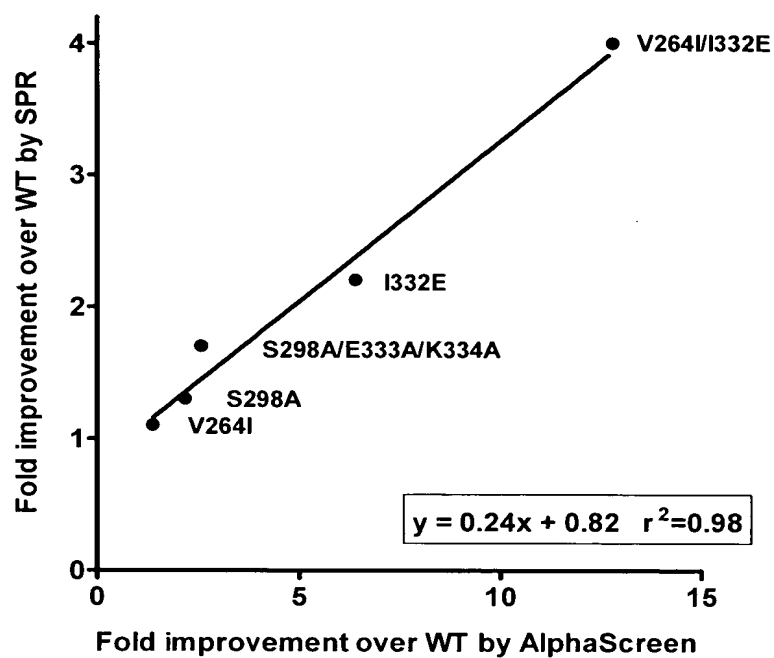


Figure 23d

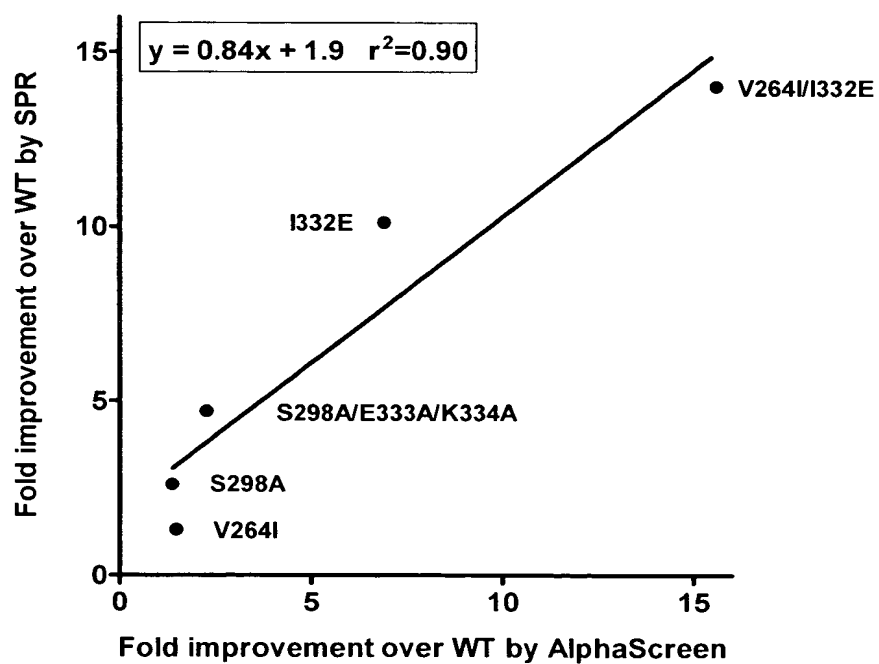




Figure 24a

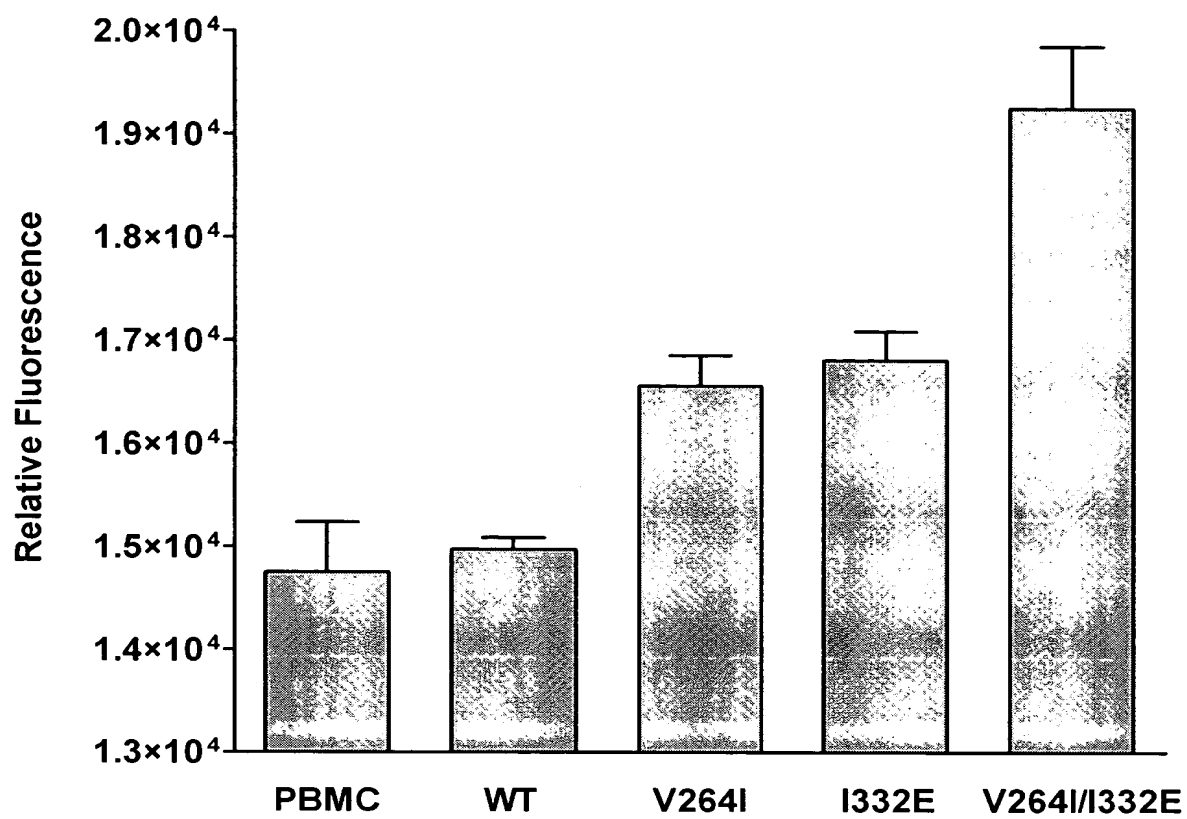


Figure 24b

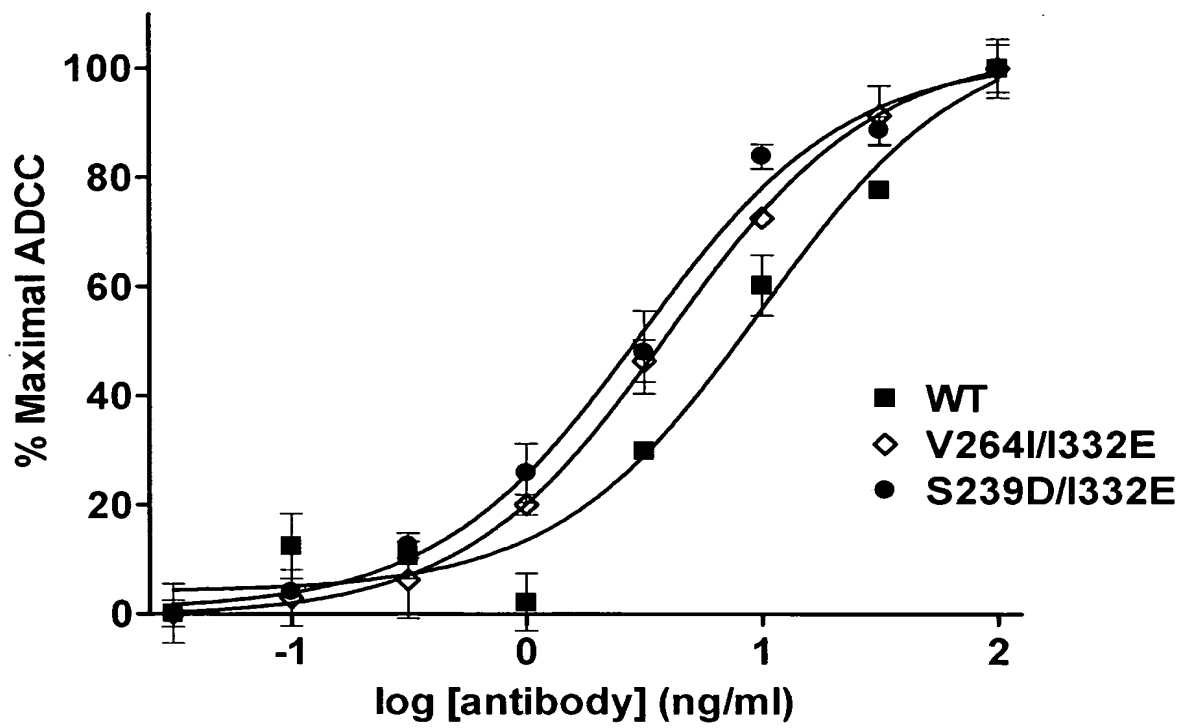


Figure 25a

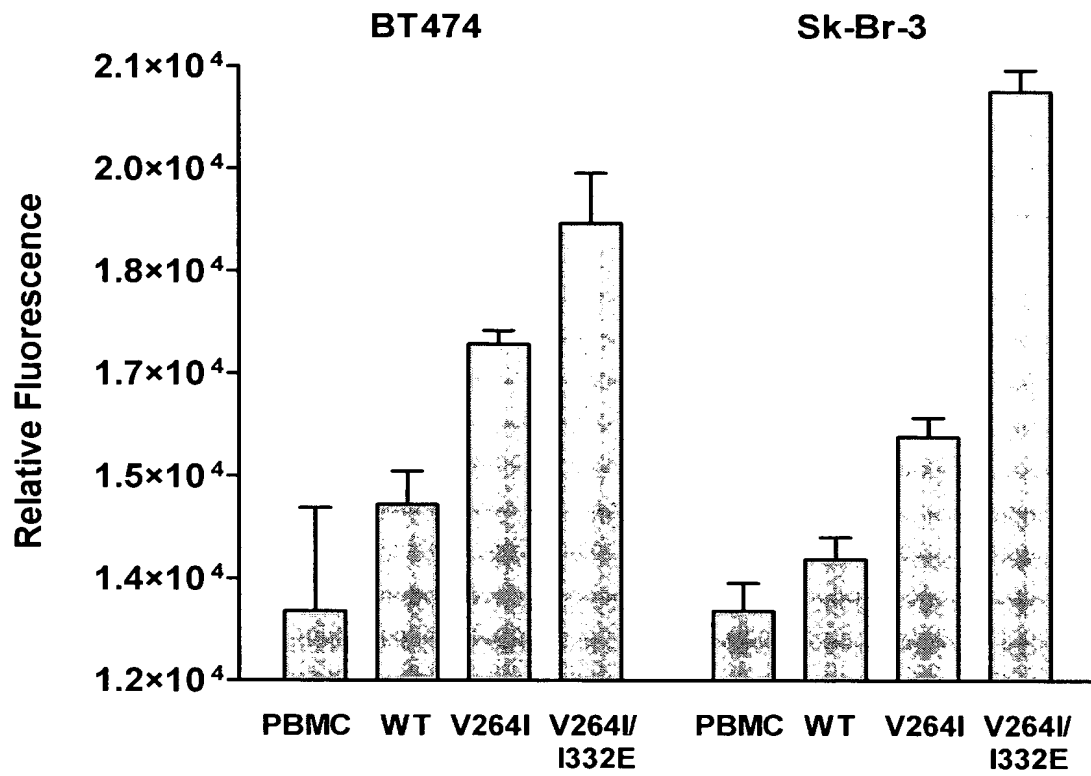


Figure 25b

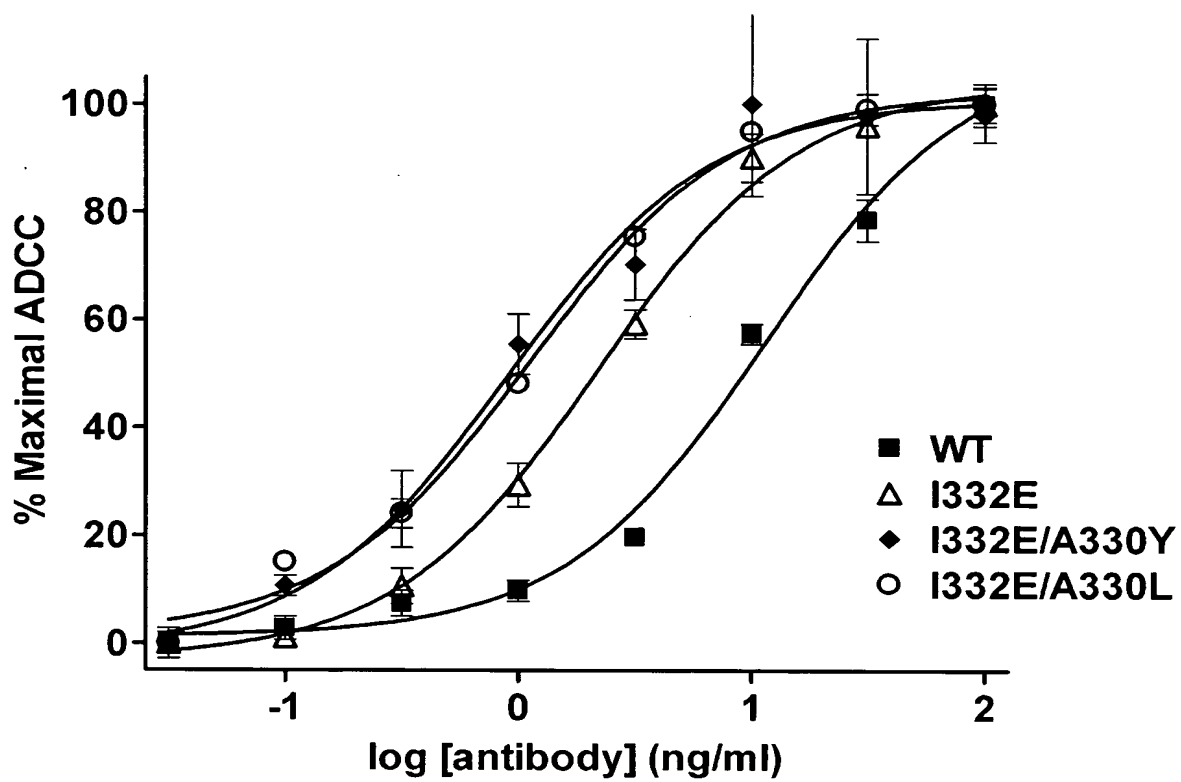


Figure 25c

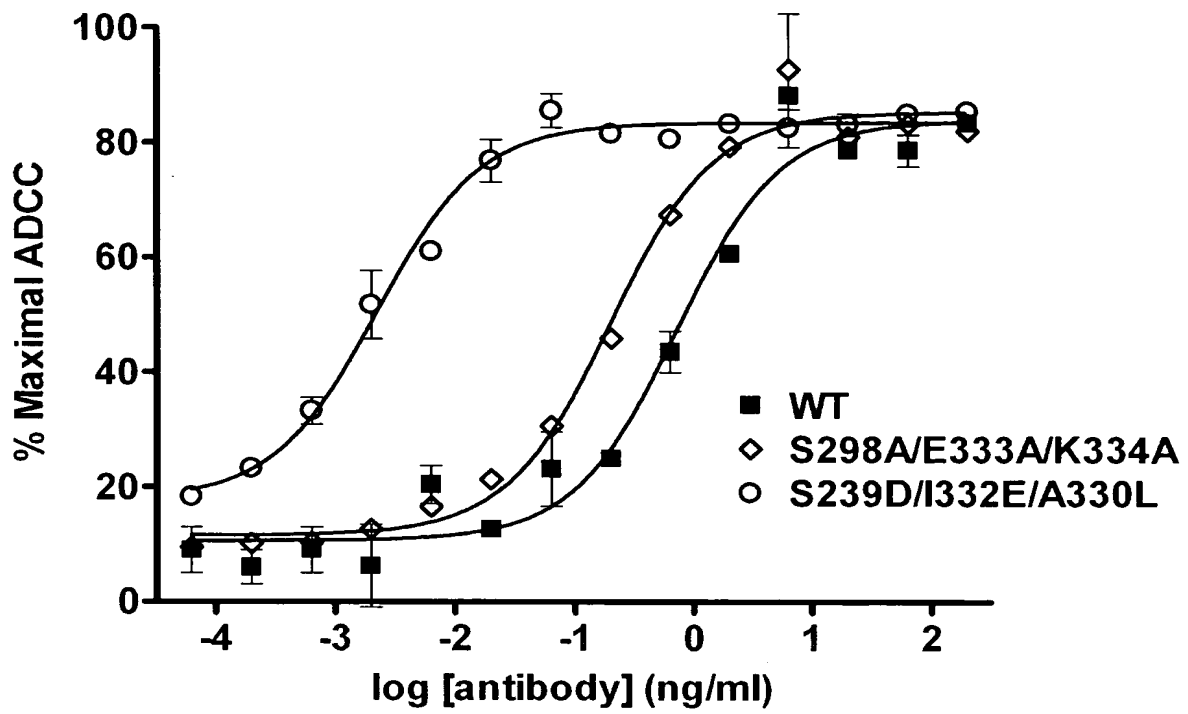


Figure 26a

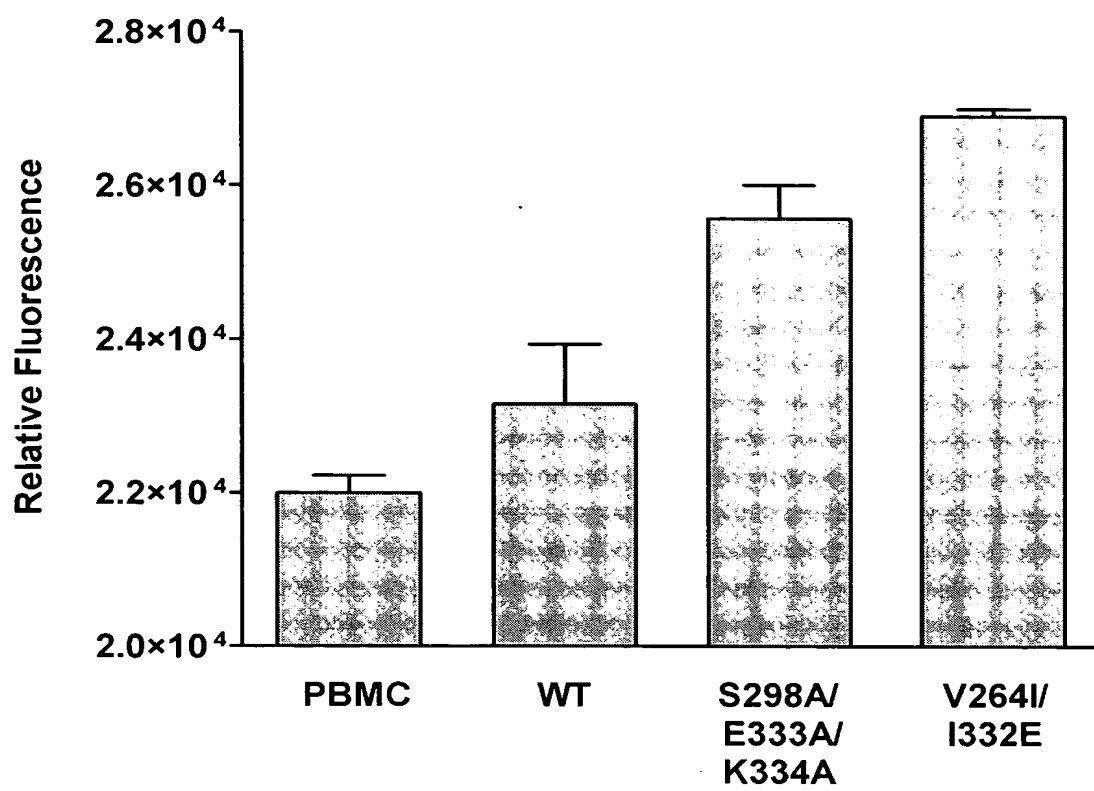


Figure 26b

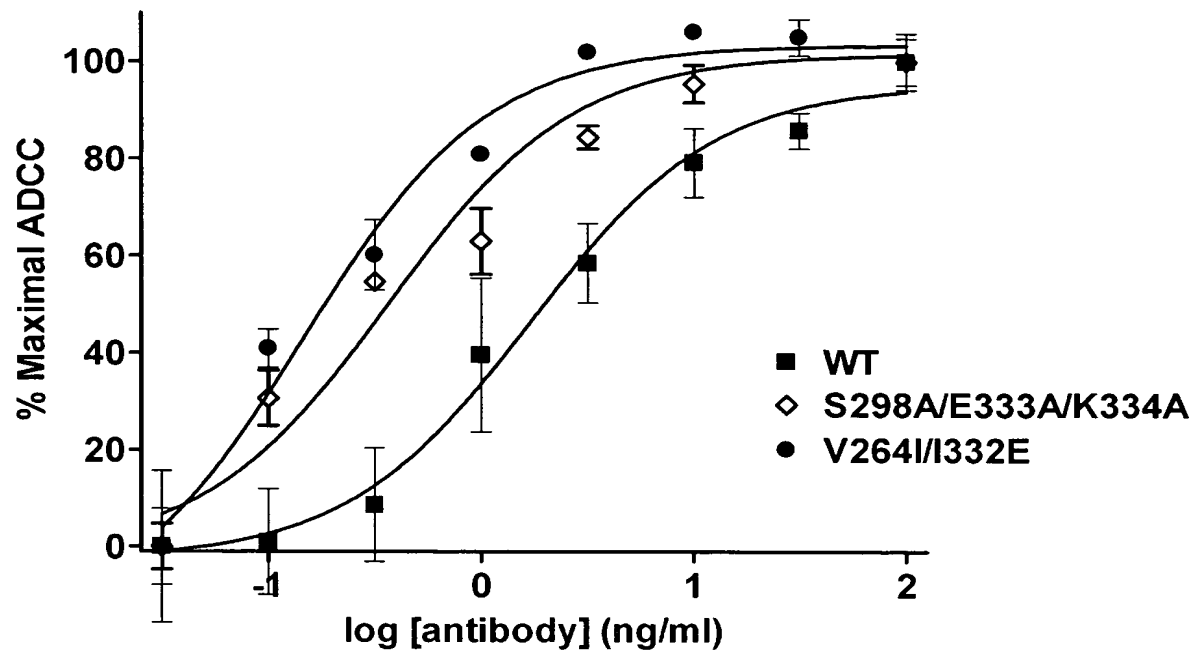


Figure 26c

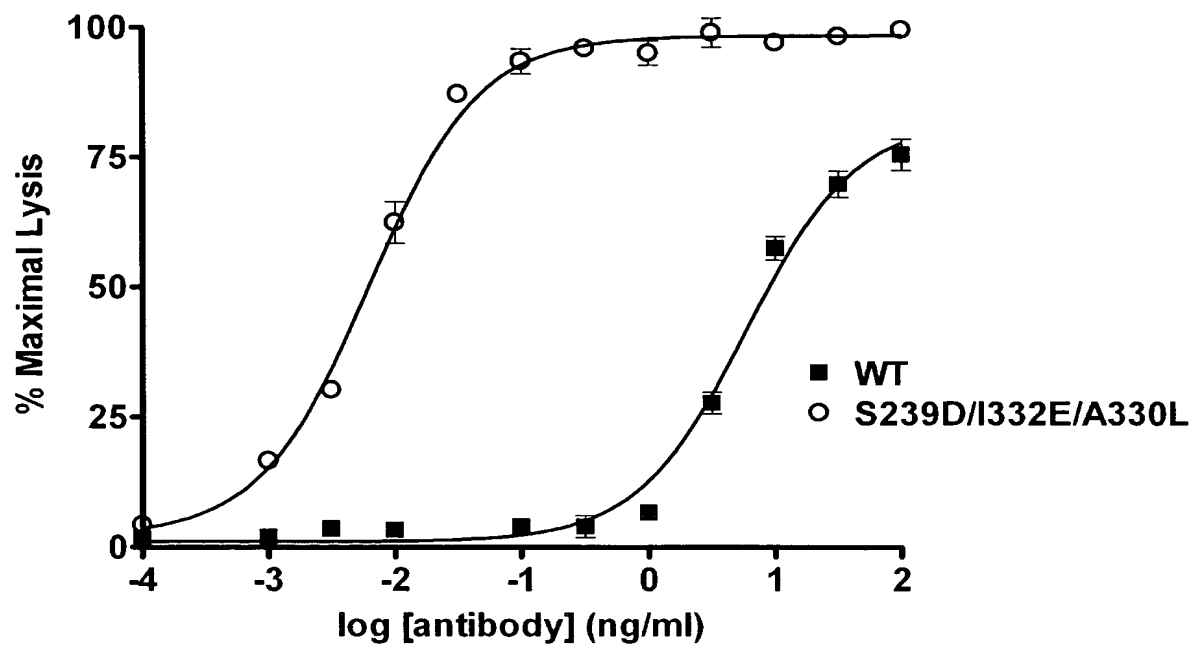




Figure 27a

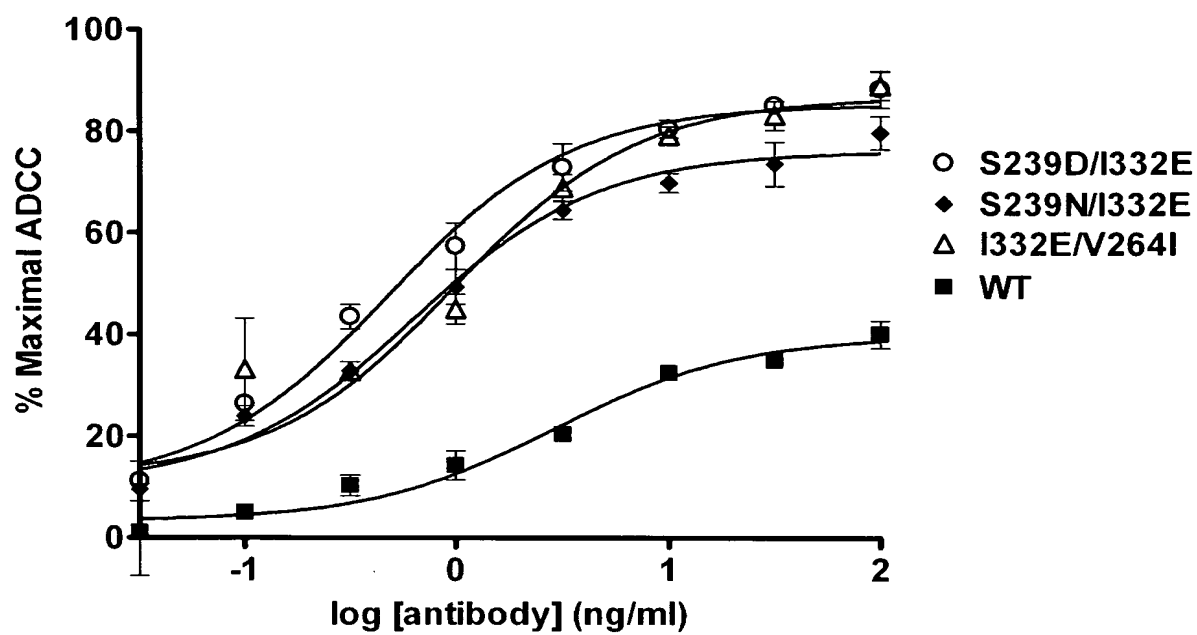


Figure 27b

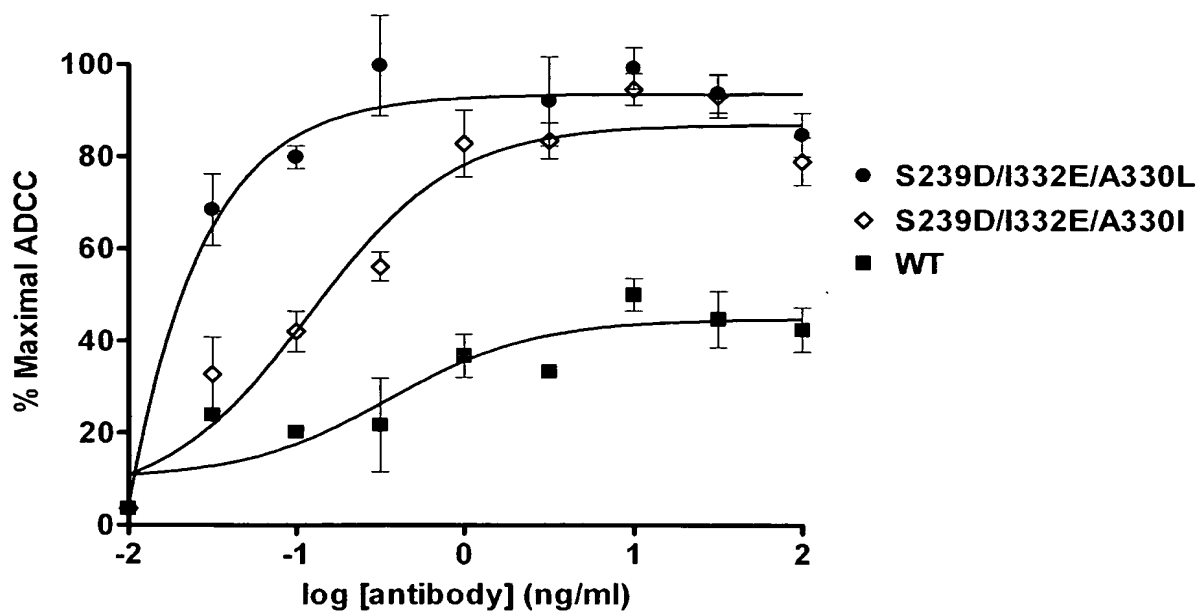


Figure 28

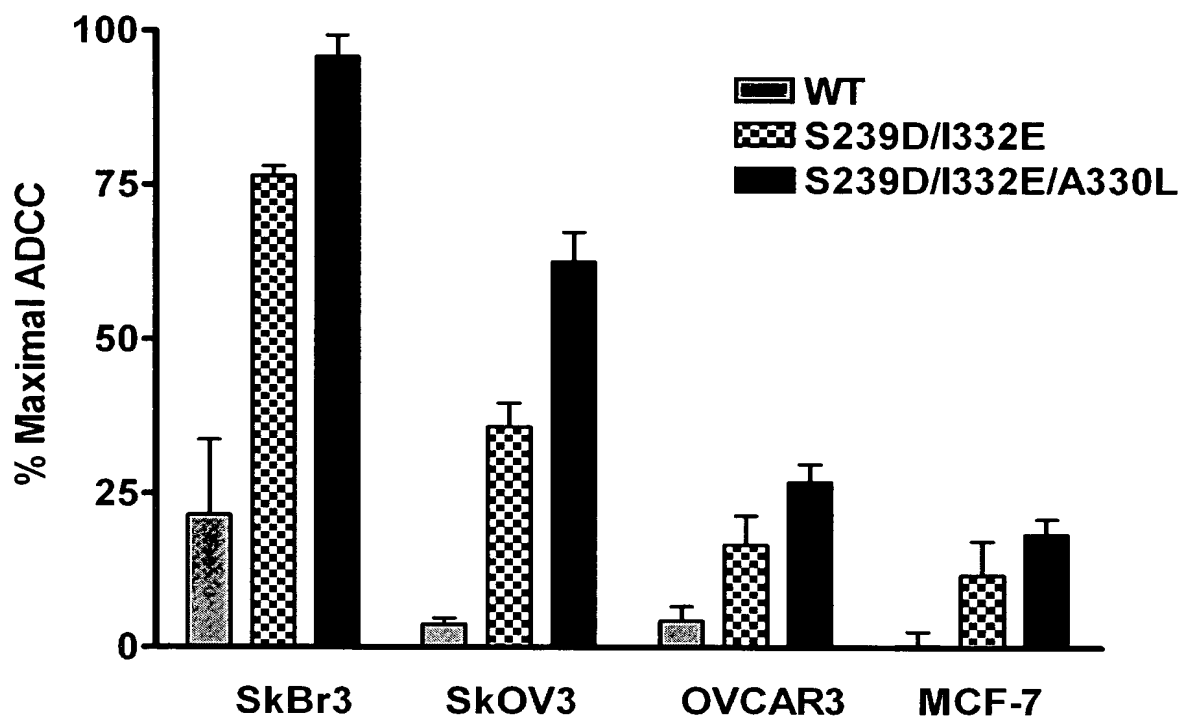


Figure 29

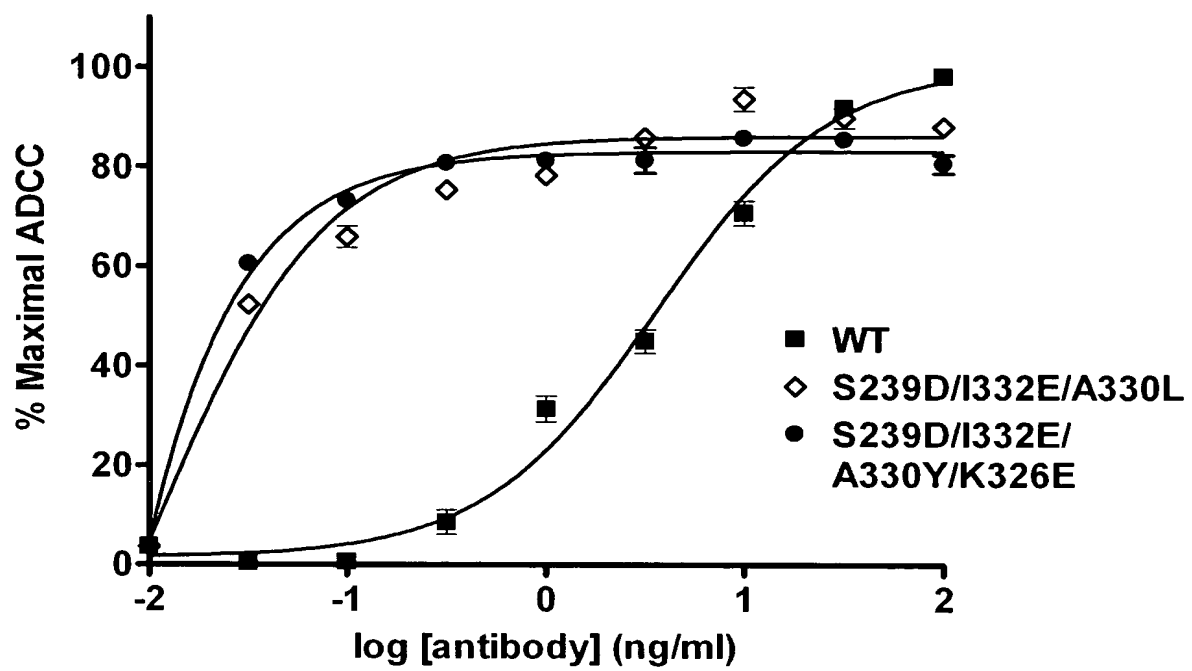


Figure 30

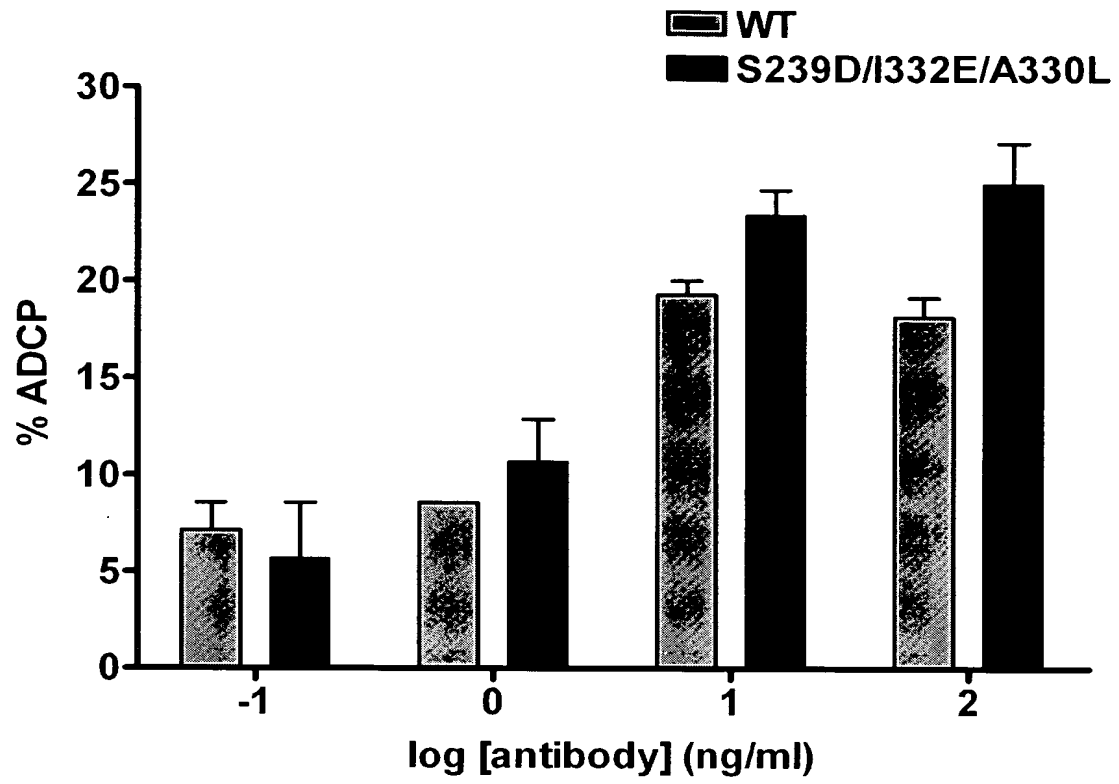


Figure 31a

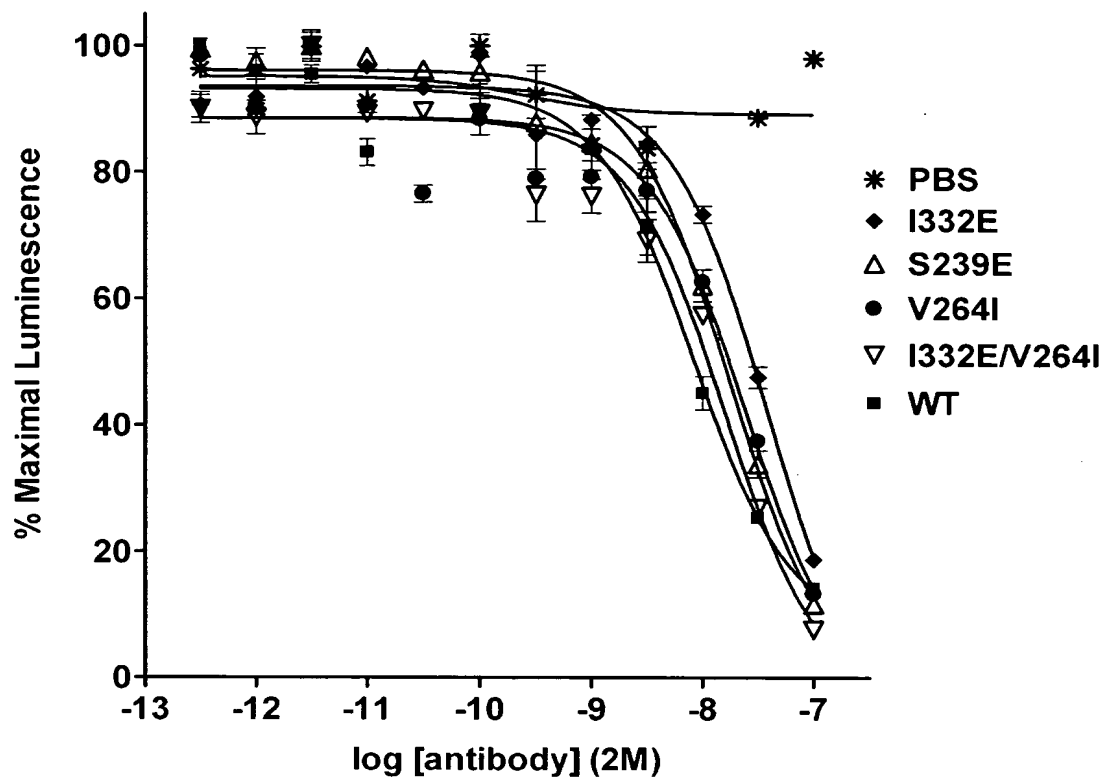


Figure 31b

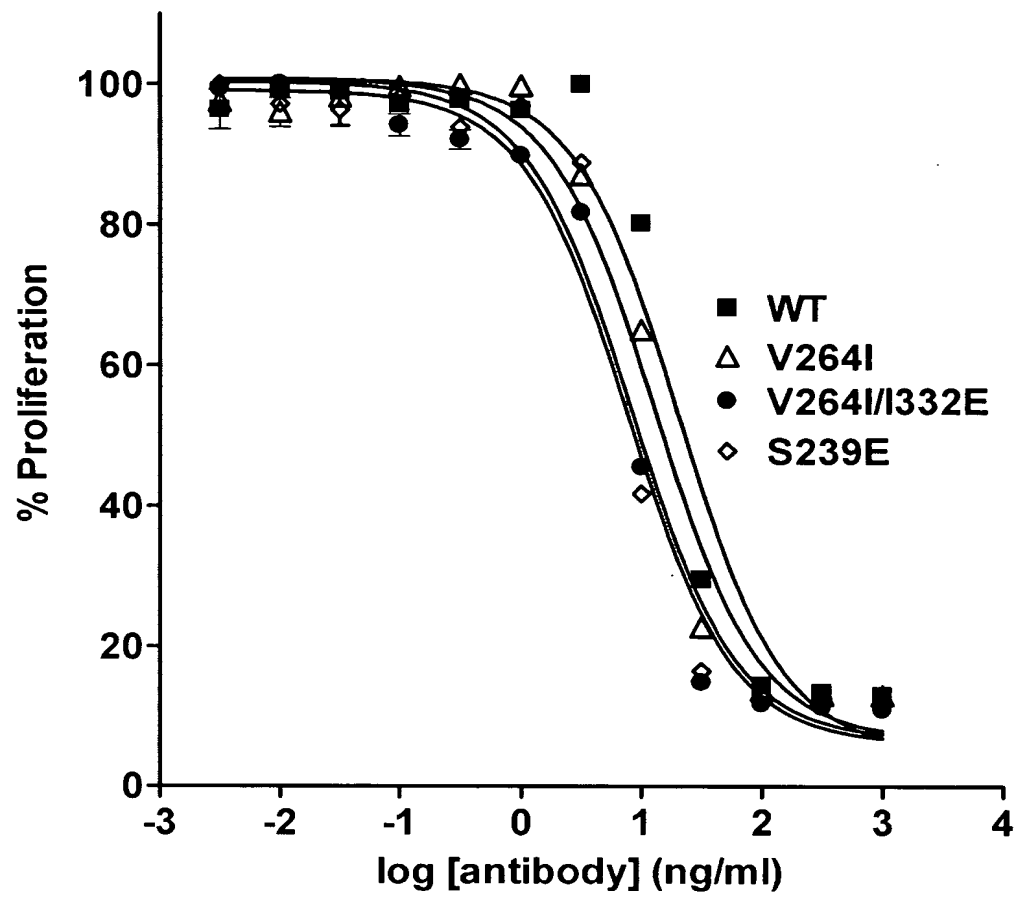


Figure 31c

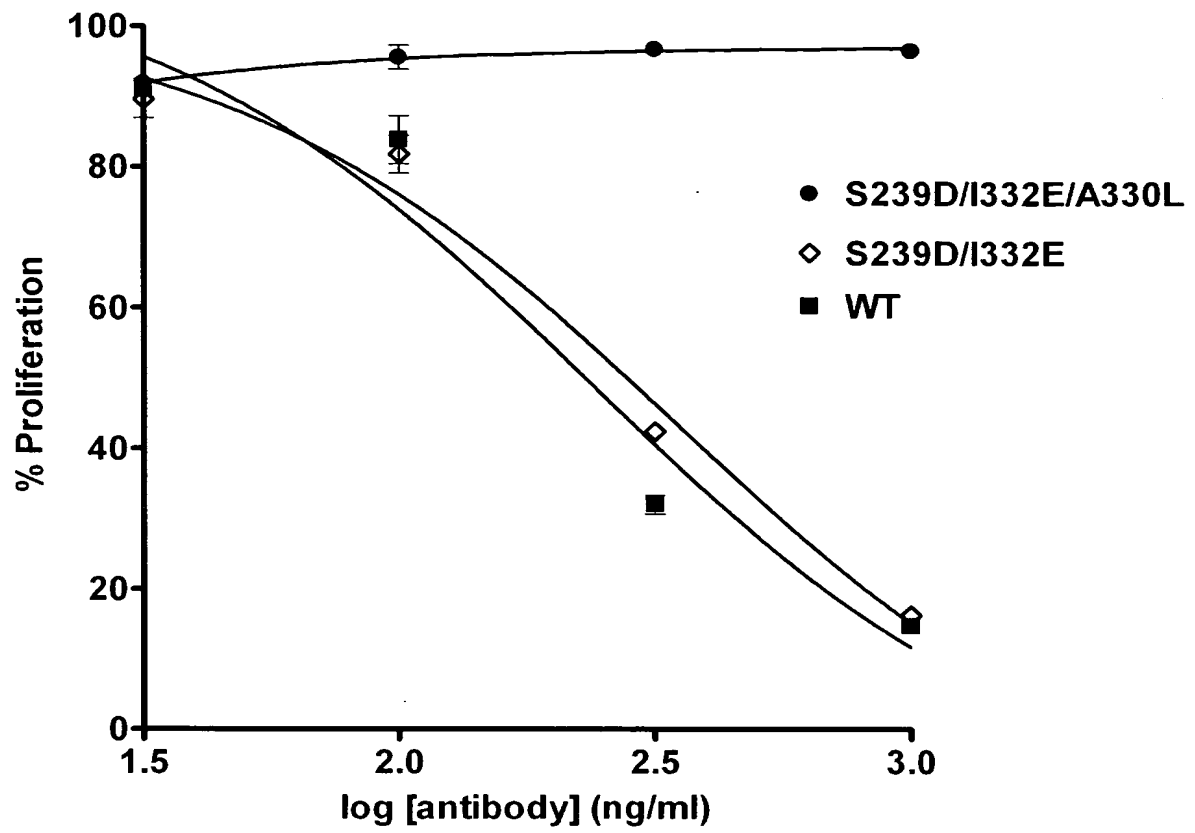


Figure 32

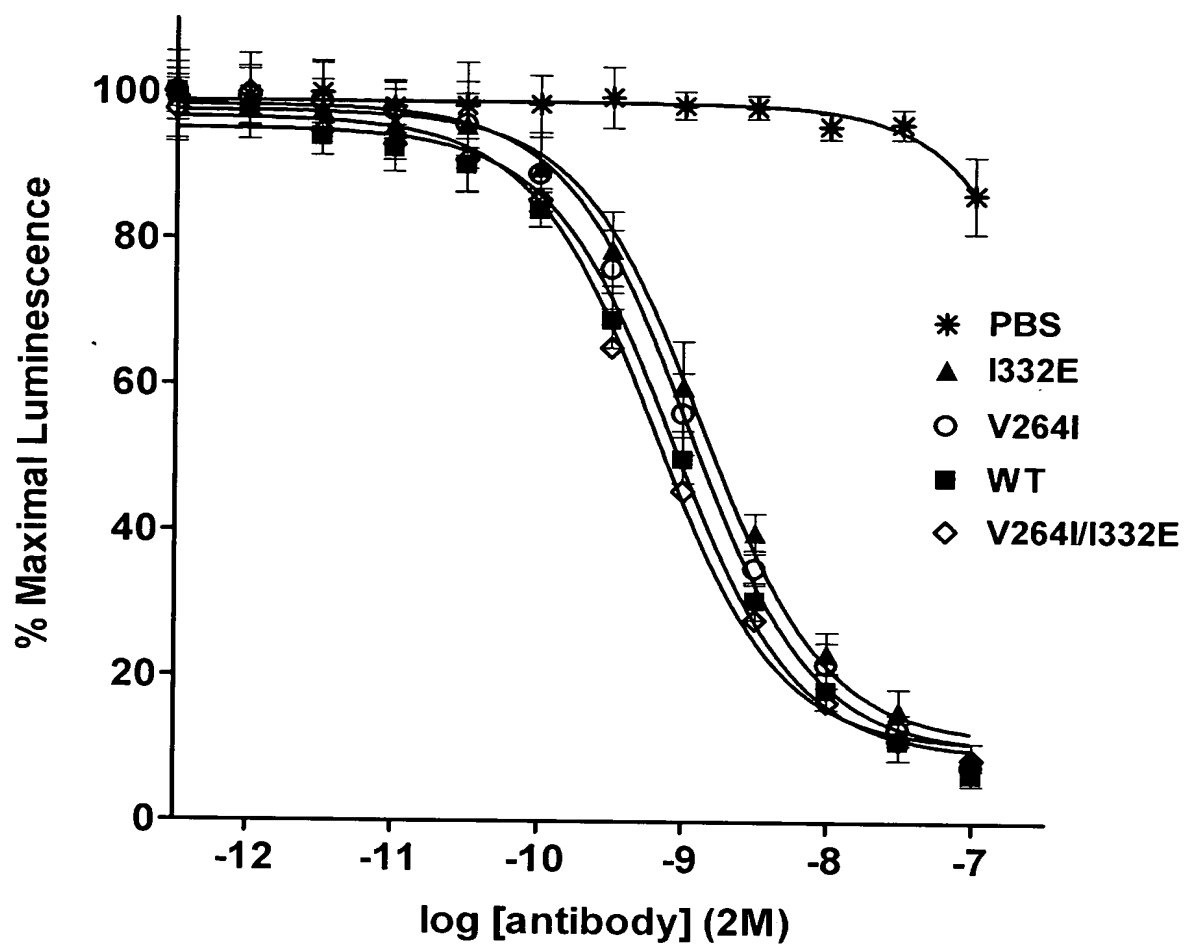




Figure 33

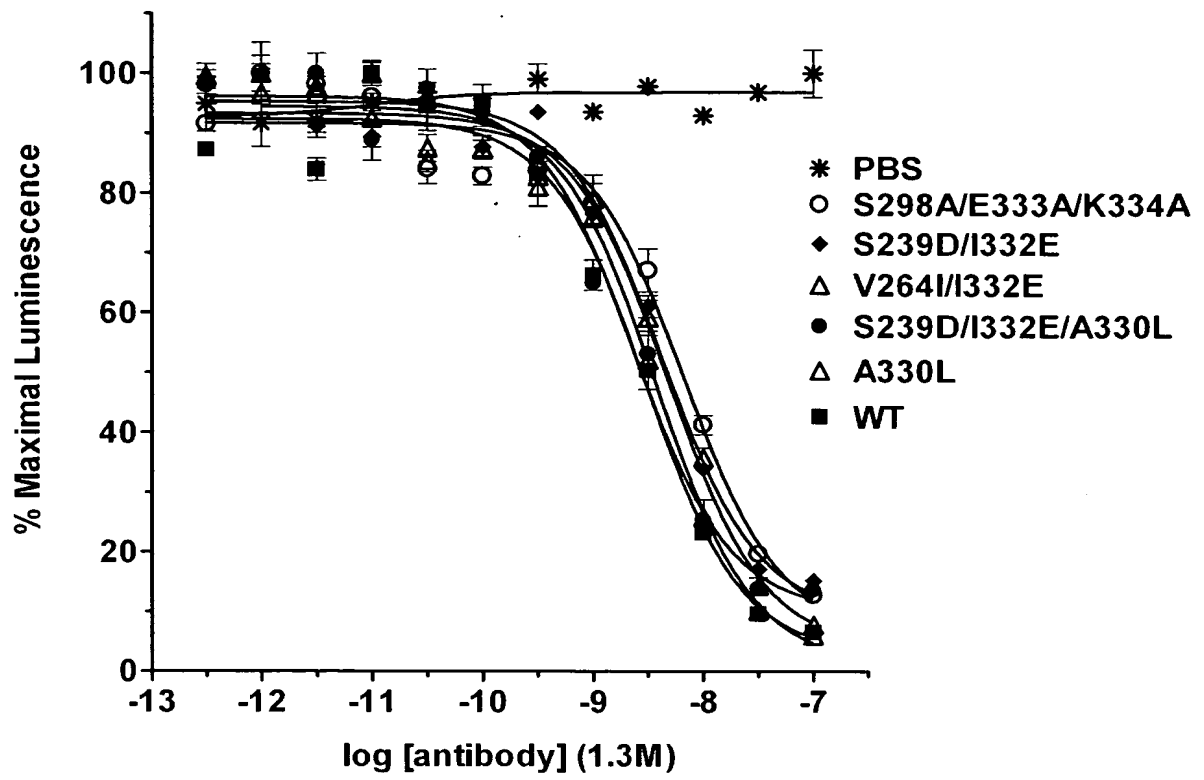


Figure 34a

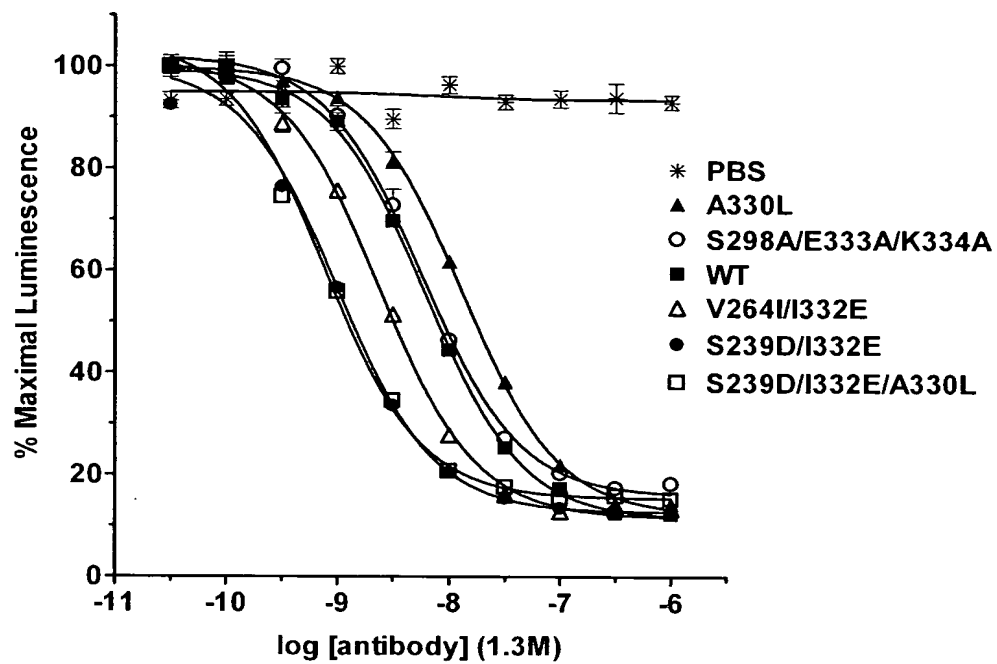


Figure 34b

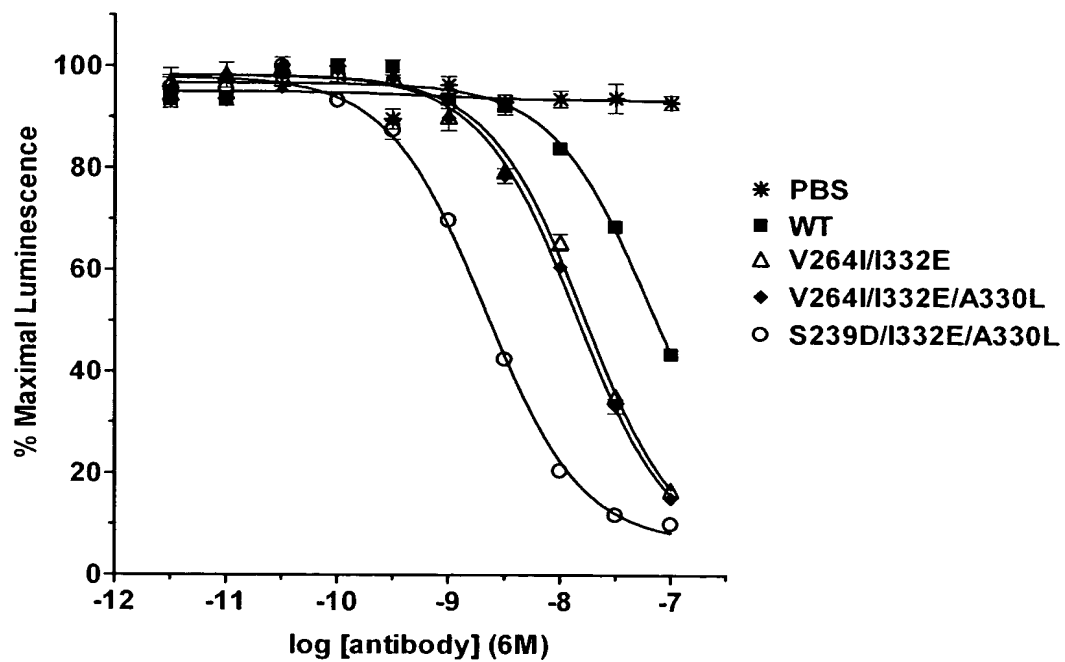


Figure 35

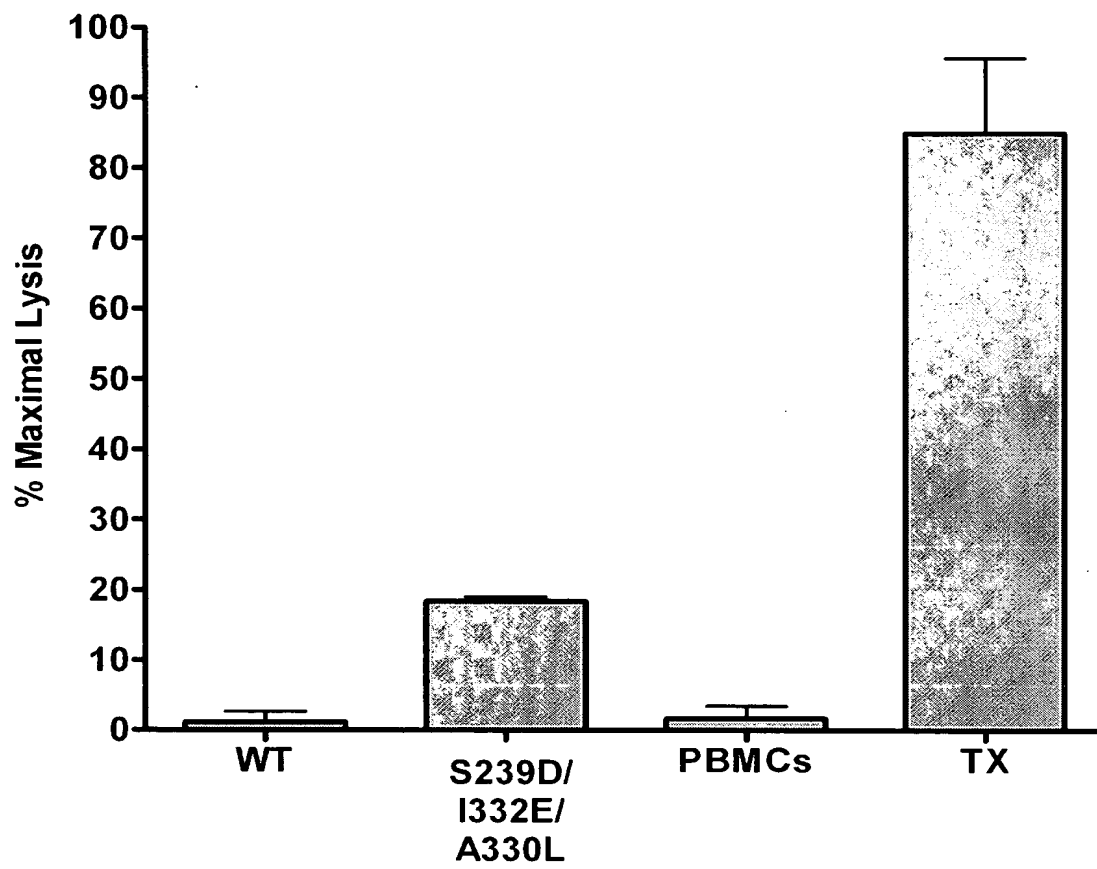


Figure 36

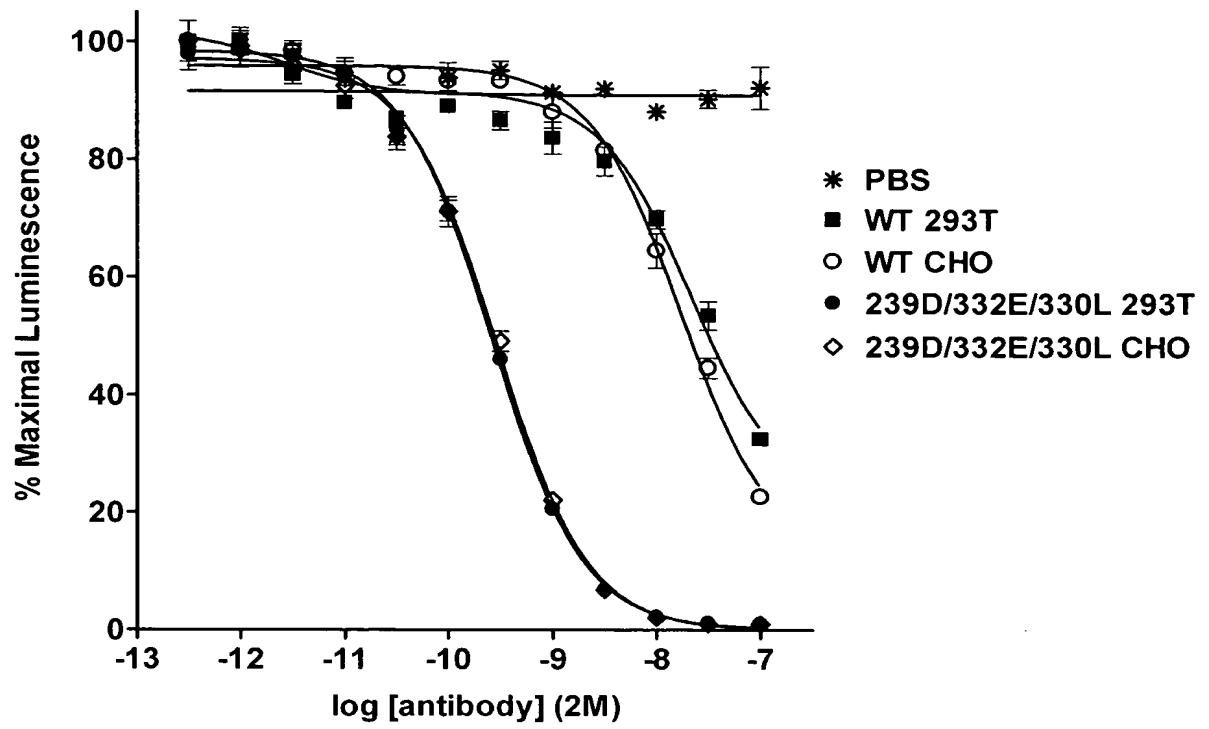


Figure 37a

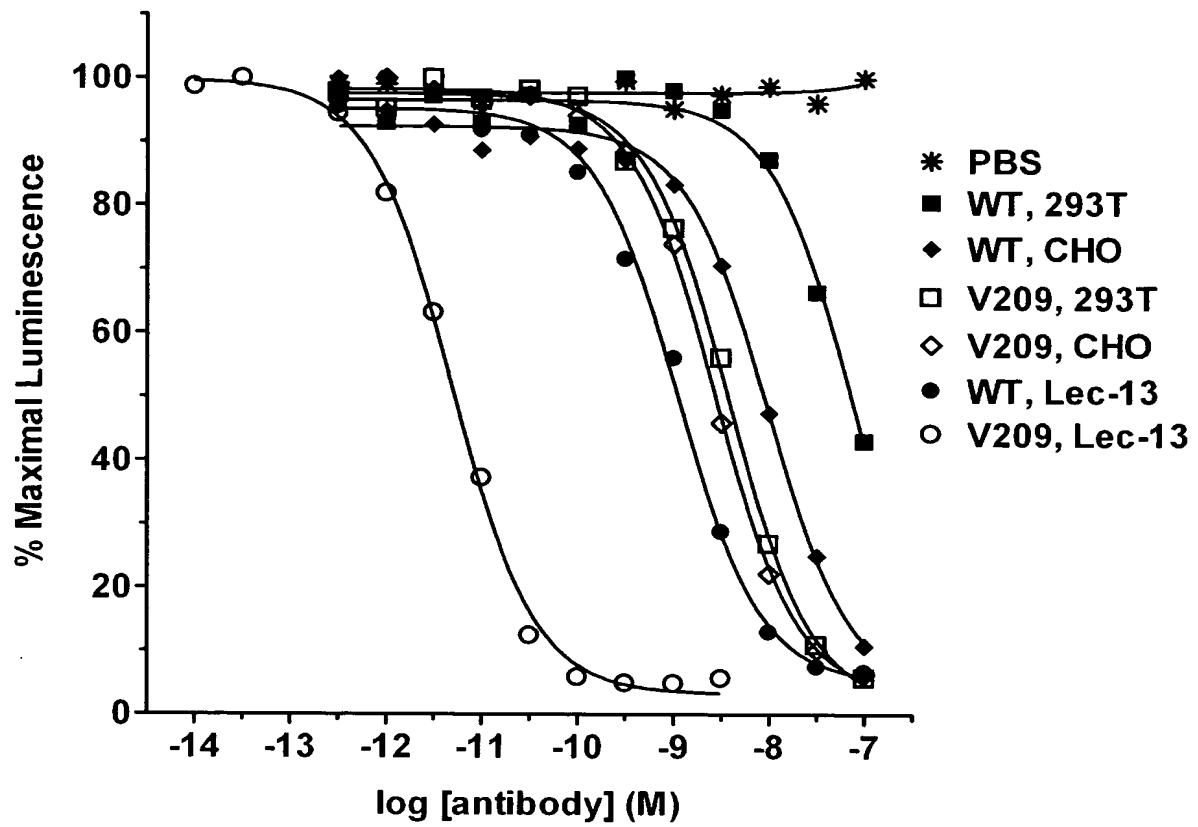
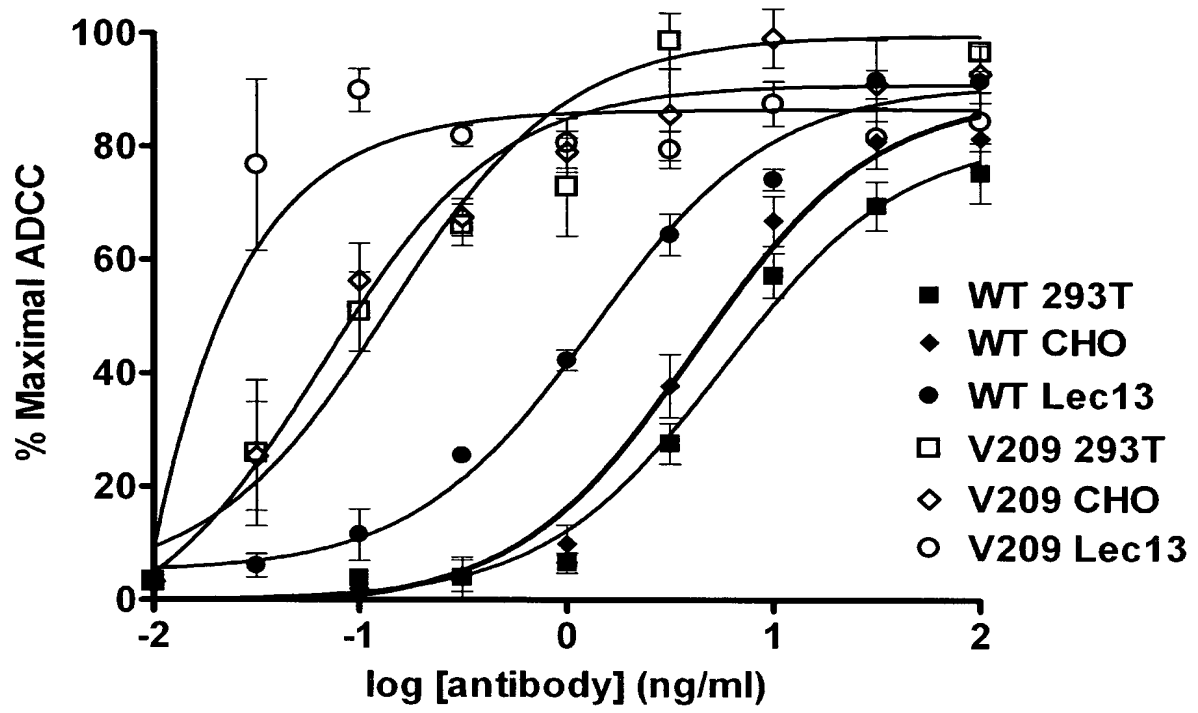


Figure 37b



**Figure 38a**

Anti-CD20 light chain

QIVLSQSPAILSASPGEKVTMTCRASSSVSYIHWFFQQKPGSSPKPWYATSNLASGVPVRFSGSGSG  
TSYSLTISRVEAEDAATYYCQQWTSNPPTFGGGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLL  
NNFYPPREAKVQWKVDNALQSGNSQESVTEQDSKDYSLSSLTLSKADYEKHKVYACEVTHQGLS  
SPVTKSFNRGEC

**Figure 38b**

Anti-CD20 heavy chain

QVQLQQPGAELVKPGASVKMSCKASGYTFTSYNMHWVKQTPGRGLEWIGAIYPGNGDTSYNQKFK  
GKATLTADKSSSTAYMQLSSLTSEDSAVYYCARSTYYGGDWYFNWVGAGTTVTVSAASTKGPSVFP  
LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLG  
TQTYICNVNHKPSNTKVDKKAEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV  
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA  
LPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTP  
PVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

**Figure 37c**

Anti-CD20 heavy chain comprising possible Fc variants

QVQLQQPGAELVKPGASVKMSCKASGYTFTSYNMHWVKQTPGRGLEWIGAIYPGNGDTSYNQKFK  
GKATLTADKSSSTAYMQLSSLTSEDSAVYYCARSTYYGGDWYFNWVGAGTTVTVSAASTKGPSVFP  
LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLG  
TQTYICNVNHKPSNTKVDKKAEPKSCDKTHTCPPCPAPELLGGP $X_1X_2$ FLFPPKPKDTLMISRTPEVTC  
V $VX_3$ DVSHEDP $X_4VX_5$ FNWYVDGVEVHNAKTKPREEQY $X_6Z_1$ TYRVVSVLTVLHQDWLNGKEYKCKVS  
N $Z_2$ ALP $X_7PX_8$ EKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN  
YKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

Position	WT	Possible Substitutions
$X_1$	S	D, E, N, Q, T
$X_2$	V	I, M
$X_3$	V	I, T, Y
$X_4$	E	Y
$X_5$	K	E
$X_6$	N	D
$X_7$	A	Y, L, I
$X_8$	I	D, E, N, Q
$Z_1$	S	A
$Z_2$	K	E, T